

Municipal Journal

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SEATTLE BATH HOUSE, SHOWING SPECTATORS' BALCONY.

SEATTLE'S MUNICIPAL BATHING BEACH

Bath House with Spectators' Balcony and Refreshment Booths.—Board Walk and Picnic Grounds.—Method of Handling Bathers.—Exits of Bath House Guarded by Shower Doors.

By CLAUDE A. OSIER.

One of the beauty spots and pleasure resorts in the city of Seattle is the municipal bathing beach, located on the West Seattle peninsula, at the entrance to the Seattle harbor. The resort is a strip of salt water beach approximately 2,500 ft. in length. The ground has historic interest, in that it is the spot where the founders of Seattle first landed from their Indian birch canoes, and founded in 1852 the little settlement that was destined to become the "Queen City of the West." A monument, which enhances the beauty of the playground, has been erected at this point, bearing the names of the original settlers.

Facing as it does the entrance to Elliott bay, Alki Beach is an admirable location for a salt water park, and in connection with Alki Playfield and Schmitz Park, which are nearby, forms a rare combination of recreation features unsurpassed in the Pacific Northwest. This natural playground is easily accessible by street cars or steamer service.

The property was acquired by the city of Seattle late in 1910, and improvement work was started at once. A substantial bathhouse, with spectators' balconies, refectory, refreshment booths, and all conveniences, has been constructed, and the amusement park was opened to the public on July 4th, 1911. A broad boardwalk has been laid

the full length of the beach, which affords a splendid view of Puget sound, with the snow-covered Olympics in the foreground. Spacious gardens beautify the vicinity of the bathing beach and playfield. The grounds and the promenade are lighted at night with electric lights, and this, in connection with band concerts three evenings each week, makes Alki Beach one of the most attractive evening resorts in the city.

Between the board-walk and Alki avenue the narrow strip of ground has been arranged for picnic parties, with an ample supply of lunch tables and benches under the trees along the avenue.

The facilities for handling bathers are excellent, and the efficiency has been increased until at this time it is possible to conveniently accommodate 5,000 persons at one time. A patron checks his valuables at the office at the entrance, secures a suit ticket from the cashier by the payment of 10c., and passes through the turnstile to the bathhouse, obtaining a suit at the suit window and proceeding to any available dressing room. After undressing and putting on suit, the bather calls for the attendant, and is assigned a locker, where his clothing is stored, the dressing room being vacated in favor of a new patron. The bather is given a check indicating the locker number, which is worn around his

neck on a rawhide cord. This locker system now in use eliminates the former unsatisfactory method whereby the bather's clothing was rolled in a bundle and checked, and also does away with the congestion and confusion at the checking room, as well as the services of a large force of checkroom attendants. The old check-room facilities, however, have been retained to provide for emergencies on rush days.

Returning from the beach, the bather, after taking a shower bath, presents his check to an attendant, who opens his locker for him with a master key. He then repairs to the nearest available dressing room, the locker thus becoming available to the next bather. A bather is required to deposit his suit and towel, after using, in a hopper near the exit, or if a privately owned suit has been used, have the same wrapped at that point, before being permitted to leave the building. It will be seen that this system is an economical one from the standpoint of operation and also permits of the maximum use of the facilities; with lockers and dressing rooms becoming immediately available as fast as vacated and with bathers coming and going all the time, an unlimited number can be accommodated.



VIEW ALONG ALKI BEACH.

Showing section of board walk, band-stand and portion of picnic grounds.

Another novel feature which marks for economy, is the installation of shower doors at the exit from the bathhouse to the beach. The door frame of the exit is piped, and a shower of water is constantly running, completely showering the doorway. This accomplishes a number of things, principally preventing spectators from the beach coming into the bath-house unless they want their clothing drenched, thus saving the service of door-tenders or watchmen. It also prevents bathers after dressing, from leaving the bath-house except by the regular exit, where they must turn in the suit and towel they have used. This system is expected to prevent the theft of suits and towels. Another service rendered by the shower door is that the bather returning from the beach is given a forced shower, which washes the sand and gravel from the suit, thus prolonging the life of the suit.

The entire basement of the bathing pavilion is used as a laundry, where each suit is thoroughly cleansed and dried after each wearing. This sanitary feature is worthy of comment, and is one of the expensive items in the up-keep of the bath-house.

Many of the excellent features now in use are the results of ideas secured by superintendent of parks J. W. Thompson and secretary Roland Cotterill, on their trip of inspection to a number of bathing beaches in the middle west and California. The system in use at Alki Point is practically the same as at Diversey Beach on Lake Michigan, Chicago.

During the season of 1912, about 75,000 persons availed themselves of the bathing privileges, and this number will have been doubled during the season of 1913. This number refers to bathers only, and not to the enormous crowds who flocked to Alki Point to enjoy the band concerts, out-of-door lunches and the delightful surroundings.

NEW BEDFORD'S AUTO APPARATUS

First Purchased Four Years Ago.—Latest Made by Department.—Details of Materials Used for Latter and Cost of Each.

By WALTER H. YORK.

Chief Edward F. Dahill of the New Bedford fire department believes that a fireman can be something else besides a fire fighter without in the least impairing his efficiency in handling a blaze, and has built several pieces of automobile apparatus for the city's use, using no other labor in the building than that which was furnished by members of the permanent fire-fighting force. The latest piece of apparatus, recently completed, is a new automobile chemical and hose wagon which is built after the chief's own plans and is thought to be an improvement over the machines of this type that are sold by many of the automobile manufacturers. The total cost of this piece of apparatus complete was \$5,159.50, whereas it is figured that the city could not have bought the machine with all its equipment for less than \$7,500.

The city's first piece of automobile fire apparatus was purchased four years ago, and was an automobile chemical and hose wagon manufactured by the Locomobile company after plans which they submitted to the city for approval. The success of the apparatus was so great that another of the same type was purchased later. This time a few improvements were added after the machine was delivered to the city, the work being done in the first department repair-shop.

The chief then conceived the idea of building his own machine with his own repair-shop mechanics, and when a third automobile chemical was needed he obtained permission to put this plan into execution, and the city purchased from the Locomobile company a specially made fire department automobile chassis, minus all the upper works, but with the engine, wheels and lower works complete, and with a frame of especially strong construction. The city paid for this chassis, \$4,600. When the chassis arrived it was taken immediately to the fire department repair shop, where the body of the car was put on. The construction of the chemical, from the time of the arrival of the chassis in the city until it went into commission, required two months, and during all of the time the firemen who were working on her were doing fire duty. Not one extra man was employed by the department for this work, and the city paid out no extra wages in overtime work.

Chief Dahill, by drawing up his own plans for the machine, was able to correct several faults that had been found with the other two automobile machines which the city had bought as well as to make a number of improvements. The extra long wheel base, 148 inches, gave room for carrying a larger equipment than was possible in either of the other chemicals, while it also

provided more room for the firemen to move around during the run to fires.

The main body of the car is of the best white wood, finished by the department woodworkers, and occupies about five feet of space. The running board on either side of the machine and in the rear is of seasoned oak bound on the edges with polished brass. The hand rails are of common brass pipe polished, while the two upright standards on the rear of the machine for holding two lanterns are of cast iron with hooks at the end. All of these were bought in the open market in New Bedford and fitted and shaped in the department's shop.

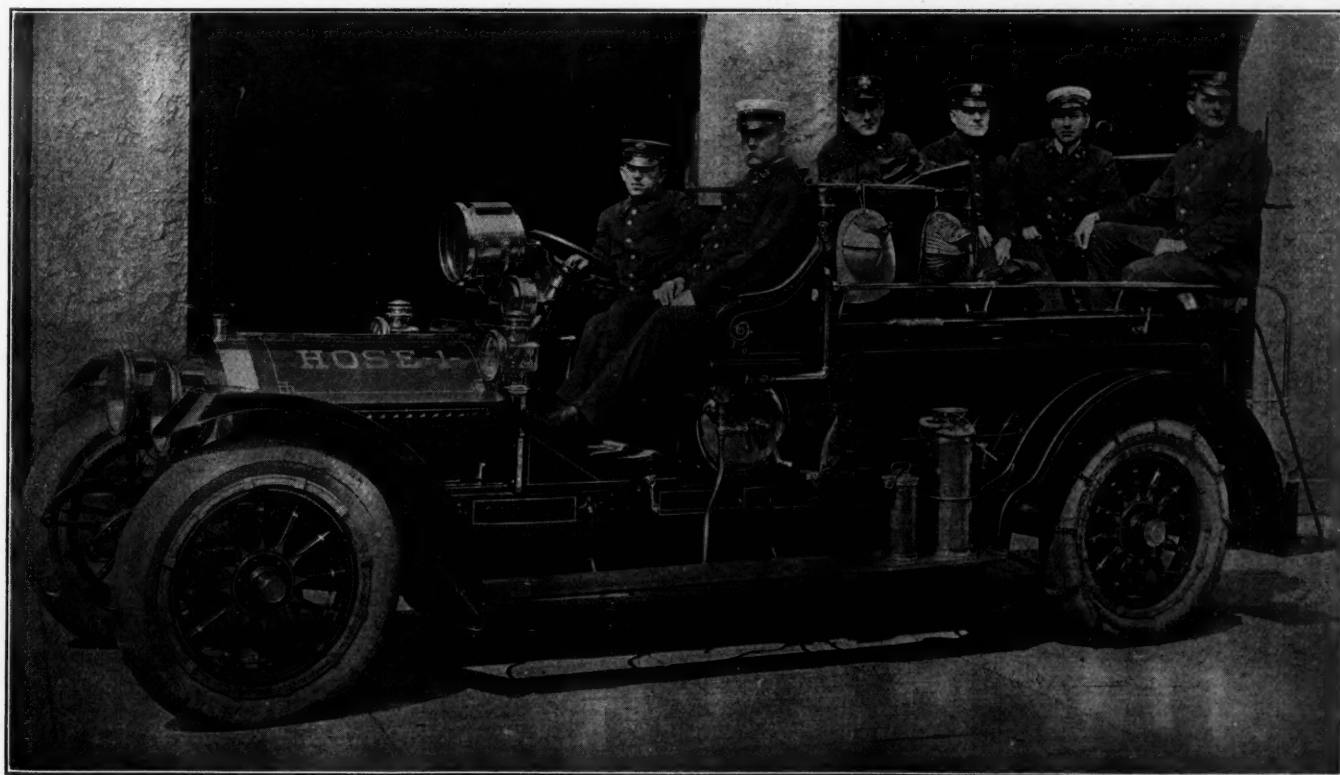
The gasoline tank and the tank which holds the chemical were purchased outside of the city of firms which manufacture that kind of material. The chemical tank was shipped to New Bedford all ready to be installed at a cost of \$250, and will hold 35 gallons of chemical mixture. There was a gasoline tank which came with the chassis, but on account of its location and shape it was thought best to ship it back to the factory and have one made especially in order that it might fit into the hose basket instead of being put beneath the seat as is the usual practice. The space under the seat in the new machine is occupied by the chemical tank. The mud guards and the headlights were furnished with the chassis but had to be put on after the machine arrived in New Bedford. The chassis as purchased included a frame which was built of especially heavy steel, and a four-cylinder motor rated at 45 horse-power but easily able to develop 60 with the machine all equipped. The tires are 40 by 6 inches, and besides the four already on the wheels, an extra one is carried strapped onto the side. There were the regular fenders and mud guards, and in addition two side lights and two headlights including two prestolight attachments and also one large searchlight which can be turned in any direction.

Two basket seats for the driver and his assistant were purchased at a price of \$25 each; the hose basket cost the city \$32 delivered in New Bedford, while an automatic lighting system which was installed on the machine so that the head lights may be lit by pressing a

button was bought for \$26. The chemical hose, of which the wagon carries 150 feet (instead of 100 feet, as other chemicals carry) is worth \$37.50, while the machine also carries 1,000 feet of the regular 2½-inch fire hose which is purchased by the department under a contract, in large quantities. Other items of equipment which enter into the cost of the entire piece of apparatus are two play pipes costing \$20 apiece, one two-way connection costing \$30, a pair of axes at \$3 and a pair of pike poles at the same price, two lanterns at \$3 apiece and two hand extinguishers costing \$20 apiece. The wood, both hickory and white wood, which went into the construction of the machine cost the department not over \$10, while the wrought iron and steel for the various forgings was purchased for \$4. Twenty-five feet of brass pipe which formed the rails cost \$11, while the various brass castings for brackets and trimmings cost all told, \$15. One crow bar at \$1.50 and a hydrant wrench at 50 cents completed the equipment, totalling in all \$559.50, which added to the \$4,600 paid for the chassis made the entire cost which was mentioned above.

The wagon carries a crew of six permanent men and has been in commission now for about four months. It covers the center section of the city and answers also most of the alarms in the west section of the city, making a total area of a little more than a square mile of thickly settled property. There are two other pieces of apparatus similar to this one but smaller, which are stationed at the north and south ends of the city, the settled portions of which stretch for five miles north and south along the Acushnet river and are not much more than a mile in width from east to west.

The chief is a thorough believer in the automobile pumping engine and, if the city could afford to do it, would entirely discard horse-drawn steamers and purchase enough auto engines to take their places at the rate of one auto engine to every two steamers. "This would really save money for the city in the end," said Mr. Dahill, "and we would get superior service. The auto engines are much more powerful than the steamers, can get to the scene of the fire much more quickly than



LATEST APPARATUS BUILT BY NEW BEDFORD FIRE DEPARTMENT.

the horse-drawn apparatus, and require a smaller crew of men to look after them. If we were to get rid of all of our steamers today, sell the horses which draw them, and substitute for each two steamers an automobile engine such as the Webb engine, we could have a crew composed entirely of permanent firemen instead of the half permanent and half call force which now mans the steamers, and still could save enough money for the city to pay for the new engine within five years. I do not intend to sanction the purchase of any more steamers when those we have wear out, or even to recommend any extensive repairs on them, because I believe that the money could be so much better expended upon these automobile engines."

Chief Dahill has prepared figures to back up these contentions and, to be perfectly fair, has made the comparison on the basis of a motor engine to every steamer now in use, although he says that one motor engine could easily cover the territory now covered by two steamers. The water pressure in New Bedford is very good, especially along the lower territory near the river and in the business section, and unless there is an especially long line of hose to be used, it is usually quite sufficient for fire fighting purposes without the services of an engine. It is only in the high western part of the city that the water has to be pumped or in fires where the water has to be carried for any great distance into the air.

The cost figures prepared by Chief Dahill, based on the salaries paid to firemen in this city, are as follows:

One second size steam fire engine, capacity 500 gallons per minute, and one hose wagon, capacity 1,000 feet of 2½ inch fire hose. Engine drawn by three horses, and wagon by two horses.	
One driver of engine, salary per year.....	\$1,046.76
One driver of wagon, salary per year.....	1,046.76
One engineer of steamer, salary per year.....	1,255.80
One stoker, call man, for steamer, salary per year.....	200.00
Services of relief engineer, per year.....	179.40
Five horses, feed, shoeing, etc., per year.....	1,200.00
Fuel and oil for engine, estimate for year.....	50.00

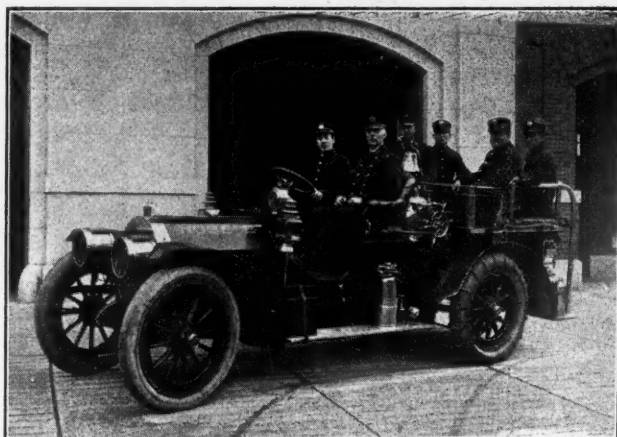
Total cost of engine and hose wagon, per year \$4,978.72

One motor fire engine and hose wagon combined, carrying 1,000 feet of 2½ inch fire hose, capacity 700 gallons per minute. Same service delivered as steamer and hose wagon above, or superior, but in much quicker time, with less men.	
One chauffeur, salary per year.....	\$1,255.80
Tires, gasoline, and oil, estimated for year.....	250.00

Total cost per year of combination auto..... \$1,505.80

Saving each year by use of motor engine..... \$3,472.92

Another advantage that should not be lost sight of, according to Chief Dahill, is the fact that the horse drawn apparatus is necessarily out of commission, par-



NEW BEDFORD'S FIRST MOTOR APPARATUS.

tially, for a short time each day while the horses are being exercised, while the motor apparatus is ready at any time.

The city is already the possessor of a Webb engine, so that the chief can speak from experience. This was purchased two years ago and is stationed at the extreme north end of the city, where it can take care of not only a large portion of fairly well settled territory, but can cover also about two square miles of sparsely populated rural territory, which lies to the north of the city proper but still within the boundary lines of the municipality. The engine carries a crew of ten men, four of whom are permanent and six of whom work at other occupations but go to the fires on call when the alarm is sounded. Since going into service the engine has given excellent satisfaction. On May 8, 1913, at a bad forest fire near the New Bedford Water Works, it took water from a stream and pumped it through twelve hundred feet of hose for six hours without a stop. The water in this instance had to be drafted fourteen feet before it entered the engine. At a later fire near the same place on July 23, the engine coupled to a hydrant and took water at 60 pounds pressure through a 2½-inch outlet, and pumped it for seven hours, without ceasing, through two lines of hose, one of them 1,250 feet and the other 550 feet long.

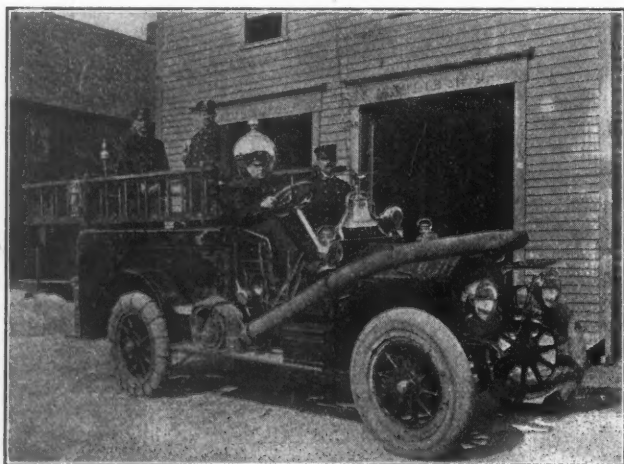
SHELLFISH AND SEWAGE DISPOSAL

Reality of Menace to Health in Shellfish as Food.—Protection from Pollution.—Purging of Impurities in Clean Water.

By GEORGE A. JOHNSON.*

Something like two centuries ago a noted British satirist made the statement that the man who first ate an oyster possessed a considerable degree of courage. This remark of such delicious facetiousness lives even today. Inasmuch as the first reference to a possible connection between a typhoid fever outbreak and oysters dredged from polluted sources was made by Dr. Pasquier about one hundred years ago, it is probable that Swift's humorous arraignment of the succulent bivalve was inspired by its unsightly, flaccid appearance, and the fact that the first man to eat one probably, like the somewhat less famous Bosco, "ate it alive."

Of the nutritious qualities of shellfish there can be no question. Of the palatability of raw oysters and



NEW BEDFORD'S MOTOR PUMPING ENGINE.

*Consulting Engineer, 150 Nassau St., New York City; Member of Committee on Sewage Collection and Disposal of the American Public Health Association. This committee is divided in opinion on the question covered by this paper, and submitted a majority and minority report at the convention September 9-13. This discussion represents the majority views.

clams we are equally certain, and of those who profess not to fancy them in this form the vast majority, in all human probability, dodge the issue for the reason that in their heart of hearts they suspect the kindly nutrient intentions of the passive victim, or prefer it cooked.

The aborigines made free use of shellfish as food, and we know that the Pigrim Fathers derived no little benefit from them in the same connection. But in those days there were no huge sewer outfalls spewing their noisome burdens over the shellfish grounds, nor did the natives make a habit of gathering oysters, and, before consumption, "fattening" them in polluted brackish or fresh water. They seem to have been content with the raw material, so to speak, not being particularly interested in the bulk or appearance of the oyster itself.

Today conditions are different. The shellfish industry has grown until the value of the total annual output of nearly 40,000,000 bushels amounts approximately to \$20,000,000, three-fourths of which is controlled by New York, Virginia, Connecticut, Maryland, New Jersey, Rhode Island, Louisiana and Massachusetts. Sanitary conditions naturally have changed also. Where shellfish formerly grew in a naturally pure state there now often discharge huge sewer outfalls, polluted rivers, the effluents of sewage treatment works, and sewage in more or less concentrated form is carried directly over the shellfish grounds by winds and currents. The oyster filters enormous quantities of water, and under such deplorable conditions it is but natural that in so obtaining its food supply much sewage matter is taken in and retained by it.

Is the oyster extravagantly maligned or is it an even worse menace to the public health than it is generally supposed to be? There can be no question that, growing in polluted waters, the oyster will take in and retain pathogenic germs, if such are present in the water. Although typhoid germs do not multiply within the body of a healthy oyster, but live there in steadily decreasing numbers, the evidence is pretty strong that in dead oysters this germ will actually flourish. Thus it is easily conceivable that one dead oyster may contaminate scores of perfectly good oysters growing in the same vicinity, or stored and transported in the same receptacle.

It is equally certain that polluted oysters can cause, and repeatedly have caused, epidemics of typhoid fever and other intestinal disorders. The proof is thus afforded that polluted oysters can produce disease in the human organism, but the far greater and more serious aspect of polluted oyster consumption refers to such isolated and sporadic cases of sickness as are traceable to no specific source but which plainly may have emanated from unclean oysters. There is no way even of estimating the number of deaths which annually may be caused in this way; but it may well be many times that disclosed by well defined epidemics traced with certainty to polluted oysters.

How can the oyster be protected from dangerous pollution? This is no simple question. The writer speaks feelingly on this point for the reason that about a dozen years ago he experienced the first of three attacks of gastro-enteritis, of which the one mentioned was traced with positiveness to oysters dredged from one of the most famous oyster grounds in the world, and consumed in an establishment of international reputation for the excellence of its sea-food, shellfish in particular.

Over 300 years ago we were advised to eschew the consumption of oysters in every month that has not an R in its name. Of recent years we hear much of the possibilities of "oyster hibernation." The theory is that during the cold months of the year the shell closes

tightly, and the oyster passes into a "sleeping" state, only to open and resume its normal functions with the advent of warm weather. Hence oysters dredged in the cold months supposedly are safer to eat than in the warm months. Naturally this feature is of much less significance in the warm waters of the South, but seems to be worthy of consideration in connection with oyster harvesting in the colder northern waters, the most serious difficulty being, however, that in some northern waters the shellfish grounds are frozen over at the time when the oyster may be hibernating, making harvesting at such times a virtual impossibility. Furthermore, obstructions preventing the complete closing of the shell, or the occasional casual opening of the shell, would tend to minimize the salutary effect of hibernation.

Polluted oysters cannot always be made entirely safe for consumption, even by cooking, and still remain palatable. Heat, as ordinarily applied in cooking shellfish, does not destroy all of the germs they may contain, for to do so would be to impart to them the consistency of rubber. It is a well known fact that among connoisseurs the best oyster or clam stews are the so-called "one minute" variety wherein the shellfish are first brought to a simmer in a pan, the milk being then immediately added, and the whole brought to a first boil, when the stew is ready. The heat so applied does not reach all parts of the bivalve, but pleasantly warms it through.

Without placing an utterly unbalanced financial burden on the responsible communities, how may shellfish grounds be protected from contamination by the sewage of such communities? Shellfish are most profitably grown in localities where the intermingling of salt and fresh water is best suited to their taste, and where the food supply is suitable and ample. The best grounds are found in the mouths of rivers and bays near the ocean, and it is indeed unfortunate for the industry that such waters are usually subject to continuous, or at least intermittent, pollution by the sewage of cities and towns located directly on or tributary to such waters. An ideal oyster ground is Jamaica Bay near New York, from whence come over 25 per cent of the total oyster crop of New York state, yet some 40,000,000 gallons of sewage enter this bay each day, and the volume of sewage is steadily increasing.

Until the dream of the idealist is realized, and all sewage is made innocuous before discharge, there seems to be little hope that shellfish, where usually cultivated, are not to be considered to be and still remain a potentially dangerous article of diet for human consumption unless perhaps, after being harvested, they are removed to an unpolluted water and there allowed a period for self purging before being placed on the market. It seems to be reasonably certain that polluted shellfish, when placed in constantly changing, unpolluted water, will purge themselves of impurities in from one to two weeks. This department of oyster cultivation and harvesting has received altogether too little attention in the past.

This refinement in the preparation of shellfish for the market may not be the ultimate answer to the problem, but it deserves exhaustive study. If the results of such studies prove favorable there should not be a sensible oysterman who would not gladly adopt it, for with the co-operation of a supervising Federal or State authority he would then be enabled to furnish for the market certified shellfish, and the thinking consumer could never object, but rather should heartily approve, of an increase in the selling price sufficient to cover the cost of such treatment, being assured of the purity of the food he is consuming.

Until prohibited by Federal or State authorities shellfish, polluted and clean, will continue to appear on the table, and even if forbidden for public sale they will still be used. Except in special well adapted cases it is impossible on financial and other grounds absolutely to conserve the purity of shellfish by sewage treatment. Complete treatment of the sewage entering waters which flow over shellfish layings will improve existing conditions, and in special cases almost, if indeed not entirely, remove the existing danger; but to be thoroughly effective a condition is required which is seldom it ever found at sewage treatment works today. There would be required not only extreme conscientiousness in the operation of the sewage treatment works, paralleling the vigilance with which good water filtration works are watched, but also interstate co-operation, the whole order of affairs being supervised by a supreme authority vested by law with power to approve or condemn.

The conservation of the shellfish industry is a difficult problem, made so by the fact that common law rights of sewage disposal into the sea and its estuaries have been and are being extensively utilized. To set these conditions back a century solely for the sake of conserving the oyster industry, where no other offense is created, is a matter which, if pressed, will engage active sanitary, financial and legal minds for many years to come.

WILMINGTON'S NEW INCINERATOR

Forty-Ton Plant Just Put Into Service.—Report of City Engineer on Test.—Difficulty of Obtaining Characteristic Refuse.

The City Council of Wilmington, N. C., accepted on August 1st an incinerator which had just been completed for it by the Decarie Incinerator Company, on the recommendation of F. F. Pillet, the city engineer. Mr. Pillet based his recommendation on a test of the plant run on July 23. A. B. Skelding, general manager of the Tidewater Power Company and Dr. Charles T. Nesbitt, county superintendent of health, served with Mr. Pillet as a committee to examine and report upon the plant. Mr. Pillet's report was as follows:

"In the test made on the incinerator on July 23, 1913, during my presence, a total of 35.6 tons of refuse was burned during the day; 18.1 tons during the forenoon and 17.5 tons during the afternoon. This refuse, with the exception of two or three loads of brush that was brought in by outside wagons, was all weighed, the figures being the actual net weight.

"Attached are the original sheets at the incinerator showing the time of delivery of each load, the class of material hauled and the weight of each wagon. It will be seen that the refuse was hauled indiscriminately and consisted of anything from brick bats to paper. Among the things burned was a mule and nine loads of slops. No accurate weight of the coal used was kept, but the amount was very small, a small amount being used in the morning to start the fire and some under the mule, probably one-quarter of a ton being used all day.

"The pay roll for the day was as follows:

Extra men—11 hours at.....	20	\$2.20
6 hours at	20	1.20
Regular crew—16 hours at	20	3.20
16 hours at	20	3.20
16 hours at	30	4.80
Company's men, 2 at	\$5.00	10.00
Coal.		1.50

Total\$26.10

"The total number of hours men worked was 16, this being due to the very large amount of brick bats, tin cans, glass, and such unburnable material dumped in, causing a large amount of clinkers, which were very hard to remove. This makes a cost for labor and fuel of \$26.10 divided by 16 or \$1.63 per hour. The actual time required to consume all the trash was about 12 hours or at the rate of three tons per hour, making the cost per ton 54 cents. This is slightly in excess of the guarantee, but the fact that 35 tons were burned in 12 hours when the contract calls for only 40 tons in 24 hours in my opinion shows the plant will be fully able to take care of the amount specified at the guaranteed cost per ton. In fact, since this test the plant has been taking care of the regular day's refuse at a cost of about \$10 per day.

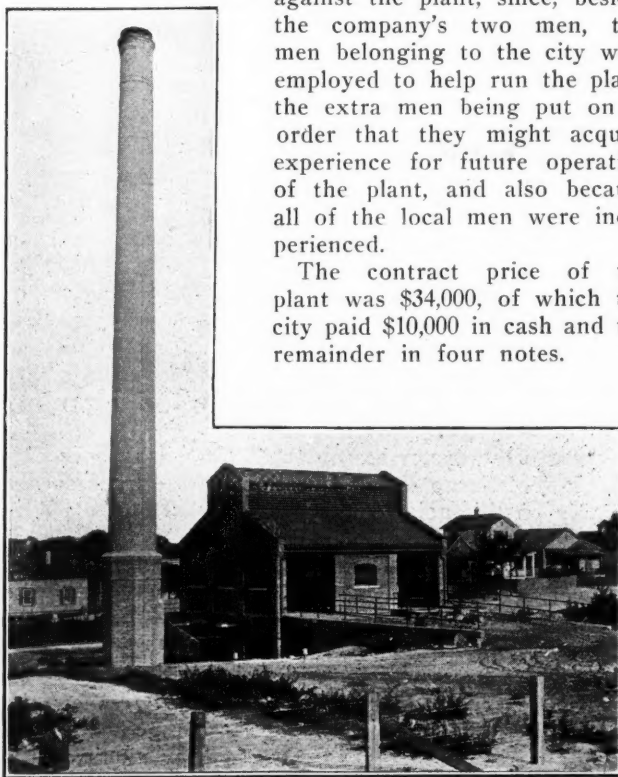
"There is no doubt that the incinerator will burn any sort of refuse."

The manufacturers state that the material brought to the plant was even worse than was stated in this report, mentioning among other things that one load contained 1,410 pounds of glass, another was made up almost entirely of broken slate roof material and another of broken brick; while all of the material was mixed with a large percentage of sand which had been scraped up with the refuse in the efforts of the city to secure sufficient material to carry on the test.

As is almost always the case, since the plant was made of a capacity considerably greater than the amount of refuse at present furnished by the city, the material burned in the test was not typically representative of the general run of the city's refuse. (The only way in which it would seem to be practicable to test a new incinerator for its capacity and still use representative refuse, would be to collect the refuse for several days previous to the test, using for the test that collected during the two or three days immediately previous; or else to import the material from a larger near-by city.)

The manufacturers also state that all of the men included in the payroll should not fairly be charged against the plant, since, besides the company's two men, two men belonging to the city were employed to help run the plant, the extra men being put on in order that they might acquire experience for future operation of the plant, and also because all of the local men were inexperienced.

The contract price of the plant was \$34,000, of which the city paid \$10,000 in cash and the remainder in four notes.



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CONTENTS

Seattle's Municipal Bathing Beach. (Illustrated.) By C. A. Osler	345
New Bedford's Auto Apparatus. (Illustrated.) By W. H. York	346
Shellfish and Sewage Disposal. By G. A. Johnson	348
Wilmington's New Incinerator. (Illustrated.)	350
Public Service as a Profession	351
Municipal Journal's Statistical Tables	351
Decision on Water Filter Patent	352
Figures in the Paving Number	353
News of the Municipalities. (Illustrated.)	354
Legal News—A Summary and Notes of Recent Decisions.	362
News of the Societies	363
Municipal Appliances. (Illustrated)	366
Industrial News.....	366
The Week's Contract News	367

Public Service as a Profession.

A recent news item from Los Angeles contained a few words which are significant as indicating a trend of ideas which would have been unthought of a few years ago. This was a suggestion appended to the report of the Budget Committee of that city that a course in public service be given in the high school.

The significance of this lies in the fact that the offering in a public school of a course in a special branch indicates that there is believed to be an opening for the adoption of this particular branch as a life work. Probably nothing has done more toward preventing efficiency in public service than the general feeling among both public and officials that such service will, as a matter of course, be taken up by them for only a year or two, when the official will return to his private business, to which in the meantime he has necessarily been called upon to devote a part of his time and energies. We have pretty generally reached the point where we appreciate that certain city positions can be satisfactorily filled only by those who have technical training along those lines, such as city engineers, superintendents of lighting plants, etc., but even so, the engineer is frequently drawn from a railroad corps with a vague idea that his previous experience has fitted him for designing sewers and laying pavements.

It would seem to be almost self-evident that satis-

factory efficiency in any department of public service, whether it be supervising roadway construction or managing municipal finances, can be obtained only when delegated to men who are not only of more than average intelligence, but who also have made a life study of the particular branch in question. It has too long been a popular idea that public office is to be considered in the nature of a reward or privilege and not, as any other service, rendered for adequate compensation, for which is demanded the best ability which the community can afford to hire. The idea that to retain a municipal employee in office indefinitely is to deprive some other citizen of his right to hold the same office is quite common but is a survival of the dark ages of the spoils system which will soon, we hope, be recognized as an anachronism. We hope to see the day when city employees of all grades, including the city manager or whatever official may exercise his functions, shall be selected with sole view to their efficiency in filling the position, no question being asked as to their politics or whether they are citizens of the city or state, but only as to their ability and past record in similar positions in the same or other cities, and when able men will take up the profession of municipal service as a permanent one, devoting their undivided energies to the study of this as others do to law or medicine. Until that day arrives it will be absurd to expect the highest possible efficiency in municipal service.

Municipal Journal's Statistical Tables.

The tables of statistics which Municipal Journal publishes in its special numbers giving figures concerning water works, street paving, sewerage, street lighting, etc., are, we have abundant evidence, appreciated and used by a great many city officials and others throughout the country who are interested in these phases of municipal work. One proof of the attention which these tables receive is the number of complaints which reach this office from mayors, boards of trade and others that their respective cities were not represented in certain of the tables. A typical recent case is that of Tacoma, Washington. On August 17 one of its dailies devoted some space to the tables concerning street lighting which were published in our August 7th issue, saying in part: "The table also shows but one community in the entire country with a smaller lighting rate than Tacoma's—only two other cities and towns of the country with a rate equal to Tacoma's. Despite this fine showing, officials of the Tacoma plant feel snubbed, for, although Tacoma's plant outshines every other one in the long pages of tables, no mention of it is made. The publication managed to obtain statistics from many small cities and towns with a municipal plant having commercial receipts running as low as \$250 a year, but not a line is mentioned of the receipts of the Nisqually plant, which will amount to more than \$600,000 this year."

The explanation of this omission on our part is very simple—we sent to the lighting officials of Tacoma a blank on which to furnish this information, prepaying postage on the same, requesting them to send the information to us promptly, and a week or two later followed this up with a second letter calling their attention to the matter. The information was not furnished, however, and as we knew of no other practicable method of obtaining the figures desired in time for the lighting number, we were compelled to omit them, much as we regretted doing so.

As was stated, this was only a typical case, and there are scores of municipal officials in charge of each of the several branches covered by our tables which have failed for one reason or another to send us the information

asked for. We realize that many of these officials receive frequent requests for information from various sources which are a tax on their time and good nature. We believe, however that without undue egotism we may say that Municipal Journal makes a use of the information obtained by it which is of more general interest and value than that made of similar replies by most, if not all, other inquirers; and the purpose of this editorial is two-fold—that it may serve as an explanation to the officials of certain cities why their cities are not represented in our several tables; and that it may lead to a greater percentage of responses to the future requests which we may make for information of this nature.

On another page of this issue appears a criticism of these tables from a different point of view, the complaint being that the mileage of pavements constructed during 1911 and 1912 was not given in full in our special paving numbers. Reference to those issues will show that we definitely stated that these figures covered the work done by only a part of the cities during the year in question, although the percentage represented was so great as to be fairly representative of actual conditions the country over.

To give total figures is absolutely impossible. The Census Bureau and the Office of Public Roads confess that they cannot do so, even with the resources of the Federal Government behind them. One reason for this is that the only method of obtaining such figures from a considerable number of the cities is to actually send a representative there to obtain them, which would be impracticable for a privately conducted journal, within the brief time available if the figures are to be up to date. A still more conclusive reason is that a great many cities have not kept any figures concerning their construction work, and could not furnish them even though they desired to.

It being absolutely out of the question, therefore, to obtain complete figures, it is only a question as to whether the incomplete figures are so misleading as to be worse than none at all, or whether there may not be considerable value in such data as it is possible to obtain. We believe that most of our readers would reach the second conclusion. That parties may use these figures to misrepresent facts would be equally true, even though the data were absolutely complete. Any mass of statistics can be juggled to support almost any contention concerning matters to which they refer. Whether this was the case in the instance referred to by our correspondent, we have not investigated and are unable to state.

We hope that we have shown by the above the appreciation which many have of the figures which Municipal Journal collects at so much expense of time and money, the desirability of having these figures as complete as possible, and the importance which many officials attach to having their city represented in these tables; and that with these facts in mind, our requests for such information in the future will meet with even more general response than has been the case in the past. As it is, we believe that we can say without danger of contradiction that no other publication, private or official, has ever collected and published such large numbers of authentic and recent information concerning the several subjects to which we have devoted our attention, as has been done by this journal; but we wish to improve upon our past. And this requires the co-operation of those officials on whom we must rely for the information, and to whom we gladly accord the credit which is due them for the cooperation which so many of them have cheerfully rendered in the past.

WATER FILTER PATENT DECISION

Negative Head Filters of Harrisburg, Pa., Found by Circuit Court to Infringe on Jewell Patents.

About five years ago the New York Continental Jewell Filtration Company brought suit against the city of Harrisburg, Pa., for infringement of what is known as the "negative head" patents, and decision in the case has just been handed down by Judge Buffington of the U. S. Circuit Court for the Middle District of Pennsylvania, affirming the validity of the patent and the infringement thereof by the city.

This case is a very important one, as the down draft feature has been embodied in practically every modern rapid sand filtration plant. The patents in suit, commonly known as the negative head patents, are No. 644,137, dated Feb. 27, 1900, and Reissue No. 11,672, dated June 28, 1898 (original No. 546,738, dated Sept. 24, 1895). Infringement of these patents was claimed by the plaintiff company on account of the building and use of the filter plant of the City of Harrisburg, which was erected in 1905, the engineer being Mr. James H. Fuertes of New York City.

It is claimed in this case that the Harrisburg plant was copied in design from the well known Little Falls plant of the East Jersey Water Company, which plant, according to the evidence, was designed by the complainant company.

At about the time the Harrisburg plant was built a similar suit for infringement of these patents was brought by the New York Continental Jewell Filtration Company against the Butler Water Company, and the latter company finally submitted to a decree finding infringement of the claims on which the Harrisburg suit was later based, so that while until now the negative head patents had not been adjudicated, they had been recognized as valid, in this instance at least.

The defense of the suit against the city of Harrisburg was conducted not only by that city, but other alleged infringers of the same patents furnished money and services in resisting the complainant company's claims. Notable among those aiding the city of Harrisburg in its defense of the suit were the cities of New Orleans, La., and Columbus, Ohio, the Louisville (Ky.) Water Company, the Hackensack (N. J.) Water Company, and engineers for the defendant and others, notably James H. Fuertes, George W. Fuller and Allen Hazen. For the complainant company testimony was given by other manufacturers of filters, namely the Norwood Engineering Company, the Pittsburgh Filter Manufacturing Company and the Roberts Filter Company, by the general manager of the complainant company, Robert E. Milligan, and by George A. Johnson, Prof. William P. Mason, Prof. James M. Caird and others.

The technical features of the case, as set forth in the decision, are explained by the following extracts from the same.

Referring to the flocculent matter which collects in a rapid filter, the judge said: "This surface sediment layer is usually found in a stratified zone, distinct from the sand bed beneath, and that there was little if any penetration of the gelatinous sediment matter into the latter. It also appears from such proofs that, as the surface sediment layer thickened, it was so compacted by the water head pressing on it that little water passed through it. But not only did such surface layer tend to eventually prevent percolation, but its compact shell tended to create a vacuum beneath, which latter, by liberating the air in the passing water, still further impeded percolation. This arose from the fact that water, under

high pressure, retains very considerable air, which, as a vacuum is formed and the water is subjected to less pressure, is released. But this released air tends to fill and clog the interstices between the sand grains and thereby clog the water flow. Proofs also show that this vacuum liberated air, owing to the slow and retarded passage of the water, was not carried off, but at times bubbled upward and ruptured the 'Schmutz-Decke.' This rupture allowed unfiltered water to pass into the sand bed until, by its impurities, such passing fluid gradually closed up the ruptured layer and restored the 'Schmutz-Decke' to a state of filtering efficiency.

"To that art, which regarded vacuum as an evil, Jewell, in his process, disclosed the radical and revolutionary suggestion that this vacuum, if of such relative completeness as to utilize its efficiency, could be made, not only to avoid all troubles incident to air-releasing, but to utilize the whole sand bed as an active filtering agency."

Jewell, in his patent, says: "My invention consists in effecting what may be termed the 'coagulation' of the suspended impurities of the water by suction while passing through the filter-bed, the particles of suspended matter being thereby caused to come together into masses of sufficient size and of such character as to be readily intercepted and retained by the granules composing the filter-bed."

"My invention further consists in applying the suction principally at the lower portion of the filter-bed, so that it acts more strongly upon the finer particles of suspended matter which have passed through the upper portion of the filter-bed."

"My invention further includes the compacting of the filter-bed in such manner that the lower portion thereof will be of the greatest density, the density gradually decreasing toward its upper surface, as by this means, while the larger masses of impurities will be retained by the more widely separated granules at the upper portion of the bed, the lower portion of the bed will be sufficiently dense and compact to intercept the smaller particles of suspended matter, especially after they have been coagulated, as above stated."

"The peculiar feature of the apparatus consisted of 'a pure water pipe . . . provided . . . with an off-carrying pipe vertically arranged and of such length that as the filtered water is carried off by said pipe a partial vacuum will be created within the filter-bed, the vacuum being greatest in the lower portion of the bed and gradually diminishing toward the upper surface thereof. . . As the process of filtration continues the air extracted from the water gradually accumulates in the bed, still further compacting it and increasing the efficiency of the filter to such an extent that even though the bed contain large quantities of impure matter extracted from the water the filter may nevertheless be continued in use with satisfactory results, thus making it unnecessary to wash the bed as frequently as has been necessary with other forms of filters employing granular filter-beds."

Again quoting from the decision: "The practical outcome of Jewell's process has been to create in sand filtration, a new, distinctly recognized and differential type of plant known as the down-draft or negative head filter. . . While there are views and contentions to the contrary in this voluminous record, every part of which has had our thoughtful examination, we are constrained by the fair weight of evidence to find, as we do, that the process and apparatus disclosed by Jewell in his patent here involved, do in practical use, by the creation of a vacuum utilize the whole sand body as a filtering agency as it was never used before. . . Just how the vacuum produces the results we shall see

it does produce, is by no means clear. Its workings are hidden from view in the sand mass, and there seems, at present, no way of observing, testing or determining the phenomena incident thereto. It is a fact that Jewell volunteered certain explanations but it is evident that, in the nature of things, they were speculative."

Witnesses testified to finding evidences of penetration, in negative head filters, for 16 to 18 inches into the sand without affecting the efficiency or clarification of the water. Another witness testified that "we found that we could accumulate within the filtering material more of the matter taken out of the water in the negative head than we could in the positive head." George A. Johnson testified: "The suction acts upon the bed to draw water through the same, and as the sediment layer forms on the upper surface of the sand layer, the suction acts to draw the impurities down into the bed, sloughing off or eating away the under portion of the sediment layer and carrying the impurities down into the bed, thereby preventing the sediment layer from becoming so thick as to choke the filter, and allowing of the extension of the 'run' between washings and increasing the yield of the filter bed."

The court found that the Jewell process effected deeper utilization of the sand bed, that the released air was helpful, that the process lessened both structural and maintenance costs, and that it is "useful, novel and inventive" and clearly had not been anticipated. Infringement by the defendant seemed indisputable.

FIGURES IN THE PAVING NUMBER.

The following letter explains itself. We have commented upon it editorially elsewhere in this issue.

September 3, 1913.

The Editor, Municipal Journal,

50 Union Square, New York, N. Y.

Dear Sir—The appearance of a conspicuous advertisement in a Western paper quoting the mileage of various pavements, as given in your issues of March 21, 1912, and March 6, 1913, has led us to undertake a verification of these figures, at least in so far as they relate to sheet asphalt pavements. It has seemed to us that the figures were misleading in that apparently they gave totals for the United States, while as a matter of fact a great deal of paving, of both asphalt and other kinds, was omitted. I understand of course your difficulty in obtaining complete statistics, and have no doubt that every effort to do this was made. At the same time, if one assumed that your figures were complete, he would be seriously misled. Another feature of the matter is that there is nothing to indicate what is meant by "miles" of street; unless the width of the street is known, it is impossible to say how many yards are contained in a mile.

Using your figures and assuming that 27 ft. is the width of street, your reports show 460.5 miles of sheet asphalt laid in 1911, as compared to 315.1 miles laid in 1912, or a decrease of 145.4 miles. As a matter of fact our records show that with Trinidad and Bermudez asphalt alone, there were laid in 1911, 510.1 miles of street asphalt, and in 1912, 597.1 miles of sheet asphalt, an increase of 87 miles. This is figuring on the basis of a 27-ft. street.

I repeat that I fully appreciate your difficulties in presenting complete paving statistics. At the same time, I think you will agree there was every likelihood that your figures would be misconstrued, and the advertising herein referred to shows they can be easily misused; for in this advertisement, the Municipal Journal was quoted to prove that there had been a decrease in asphalt pavements, and a large increase in another form of pavement, while as a matter of fact, as I have shown, there was an increase of 87 miles in Trinidad and Bermudez pavements, not to mention the yardage laid with other asphaltic materials, such as California, Mexican, etc. Even at this late date, you may think it proper to present this amplification to your readers. Very truly yours,

D. T. PIERCE,

THE BARBER ASPHALT PAVING CO.

NEWS of the MUNICIPALITIES

Current Subjects of General
Interest Under Consideration

by City Governments
and Department Heads

ROADS AND PAVEMENTS

Examination for Highway Superintendents.

Springfield, Ill.—A circular on the qualifications of county superintendents of highways has just been issued by the State Highway Commission, dealing with the position of highway superintendents, as created by the new law.

The examinations will be held at the following places: Chicago, Dixon, Peoria, Springfield, Champaign, East St. Louis, Olney and Carbondale. The date set for the examinations will be postponed until some time subsequent to October 1, as by law the county boards have 90 days from July 1, within which to nominate candidates who are to take the examination for county superintendents of highways. All county clerks will be notified later of the exact room and building in which the examinations will be held.

The examination will be divided into two parts of three hours each. In accordance with section eight of the state road laws, it is made the duty of the state highway commission to examine all candidates nominated by the various county boards for the position of county superintendent of highways.

Owing to the great variety of conditions, the qualifications that might be suitable for a county superintendent in one county, might not be suitable in another. This fact has greatly increased the difficulty of prescribing an examination or a set of examinations that will fit all cases. It is believed, however, that the following plan, which has been adopted after much study, will most nearly meet the requirements in all counties of the state.

The counties have been divided into three groups; the first group constituting all counties with a population of under thirty thousand; second group, all counties with a population of over thirty thousand and less than two hundred thousand; the third group constituting all counties having a population of over two hundred thousand. For each of these groups, a separate set of examinations will be presented.

It is suggested that all candidates should make themselves familiar with Article III of the new road law, concerning county superintendents of highways; and, in fact, it would be well for them to be as familiar with all provisions of the new road law as it is possible to gain from a reading of the law itself. A number of copies of the law will be sent to each county clerk's office and candidates may obtain copies from their county clerk.

There will also be some questions asked, the answers to which will be made plain by consulting the Fourth Report of the Illinois Highway Commission. Copies of this report also will be sent to the county clerk for distribution to the various candidates who may ask for the same. It is suggested that candidates should bring the copies of the law and a copy of this report into the examination with them. These will be all the reference books that the candidates from counties in the first group will require.

Candidates from counties in the second group and third group may provide themselves with slide rules, such tables and trigonometrical formulae as they may choose to bring, and which may be freely consulted in the examination. It is not expected that the examinations which will be given to candidates in any group will require a great deal of study.

The Progress of "Good Roads Days."

Waukesha, Wis.—About 200 Waukesha business and professional men, clad in overalls and armed with shovels and picks worked on the main roads within a radius of ten miles. Mayor Hawley Wilbur recently issued a proclamation appointing a "good roads day" for Waukesha city, and,

assisted by the Motor Club, has conducted an effective campaign for the improvement of the many beautiful drives through the surrounding country. Mayor Wilbur and his squad of workers were stationed on the first section of the Fifteen Mile drive and were assisted by many of the farmers along the roads.

Federal Aid for State Roads.

Washington, D. C.—Ohio has obtained the largest share of the \$500,000 appropriated by congress for the experimental improvement of roads for rural mail routes that was allotted to any single state. The amount allotted to Ohio under this federal appropriation is \$120,000, to which the state and local interests must add \$240,000, making a total of \$360,000 to be expended on 49 miles of experimental good roads.

According to the reports submitted to congress today the postmaster-general and secretary of agriculture have not met with the encouragement in plans for joint experiments in the construction of good roads for rural routes that was anticipated. Such states as New York, Pennsylvania and other prosperous commonwealths have refused absolutely to go into partnership with the general government in the construction of good roads. Several states refused because they did not care to have the federal authorities supervise their highways. Others objected to the eight hour federal labor law, while others thought that it was not worth while to experiment the country over with an appropriation of \$500,000. In no other state did the federal government meet with as much encouragement as in Ohio. The original proposition of the federal government made on March 26 was rejected by the states. This provided for a distribution of \$10,000 to each of the states. A second proposition was made on April 21 after a considerable correspondence with the state authorities which resulted in the distribution of the entire \$500,000 providing for the construction of 358 miles in small sections in different states. Maine came next to Ohio and was allotted \$50,000, followed by Georgia with an allotment of \$25,000.

Jefferson City, Mo.—A movement for federal aid in road construction will be launched at the meeting of the United States Good Roads convention and exposition to be held in St. Louis, November 10 to 15, according to Gov. Major. He says he will go before this convention with a definite programme for federal aid and urge its adoption. It probably will take the shape of an annual appropriation by congress to each state based upon road mileage, to be handled in the same way as the state road funds. There are several suggestions of federal aid, according to the governor. One contemplates aid in the maintenance of post roads, another aid in the construction of a national highway linking the East with the West, while another has in view the maintenance of permanent roads when brought up to standard by the states. Gov. Major invited every governor in the United States to attend the meeting and believed most of them will attend. In view of the fact that the convention will be held just before the convening of the long session of congress greater significance will be attached to its actions. The convention probably will agree upon a programme of federal aid, appoint a commission to draft the proposed measure, and urge its adoption by congress. A delegation may then go to Washington before the Roads Committee.

Congressman D. W. Shackelford secured the passage of a bill through the House at last session providing for the expenditure of \$15 a mile by the government in the maintenance of rural route roads. This failed in the Senate. While this measure would have brought a good deal of money to the states, the amount per mile is negligible.

Important Concrete Bridge Patent Suit.

Des Moines, Ia.—A legal battle to save to the people of Iowa a quarter million dollars annually in expenses and vaster sums in the future, and incidentally to effect a material saving to the people of every state is scheduled for the federal courts here, with the state of Iowa on one side and the patent laws of the United States on the other. Governor Clarke, acting under special authority granted by the legislature, has directed the state of Iowa to appear as an intervenor in the bridge patent suits, and the attorney general to defend on behalf of the people of the state. If Iowa wins it will be one of the biggest things in connection with bridge construction in recent years; if Iowa loses it means an immense added expense for many years for road and bridge work. Thus far Iowa is the only state of the union where there has been intelligently directed public effort to find out what is in the so-called Luton patents on bridge construction. Yet it is stated that other states are similarly affected, and that the royalties are exacted elsewhere as well as in Iowa. But since it has become publicly known that Iowa has engaged for a battle to the finish with a gigantic patent protected monopoly the inquiries have come from other states showing a greatly growing interest in the subject. Perhaps when the case is reached there will be a number of states in the game. The patents cover methods of construction, design of bridges, material used, etc. There are twenty-two of the patents. The inventors have evidently found a fertile field and have patented everything that could be used in connection with the making of concrete culverts and bridges, large or small, and as nobody else was engaged in patenting these devices nothing stood in the way of getting all the patents applied for. But it is said that the methods which have been patented were in fact in common use prior to the issuance of the patents in 1902; and if this is true then the patents will not hold, for a device, method, system or principle commonly known and in use is not patentable. It always remains for some one to show this fact, as the patent office, in the absence of objections, assumes that everything offered is new and patentable. The only way to beat the Luton patents is to show that there was nothing new or novel in them. As the use of concrete in bridge construction developed in some of the older states it will be there that the evidence is secured, if at all, for breaking the patents. That is why the attorney general's office has sent at state expense, Henry E. Sampson to eastern states to make a thorough study of the concrete bridge problem and its history. The holders of the Luton patents, who live in Indianapolis, exact a ten per cent. royalty on all bridges constructed under their devices. They get ten per cent. of the cost of each bridge or culvert. There are anywhere from five to six million dollars' worth of bridges built annually in Iowa, which includes county and city bridges. If a royalty is paid on half of these it is a quarter million dollars a year out of the taxpayers of Iowa. The big bridges in Des Moines paid royalty to the patentees. Most of the small concrete bridges pay the royalty. The present suit is one brought by the holders of the patents to restrain the Marsh Bridge Company from constructing a bridge at Albert Lea, Minn., without paying the royalty. Iowa gets into the game because of authority from the legislature to expend money to aid in defense of just such a suit. Iowa is first of the states to take official action to relieve the people from the burden of this bridge monopoly.

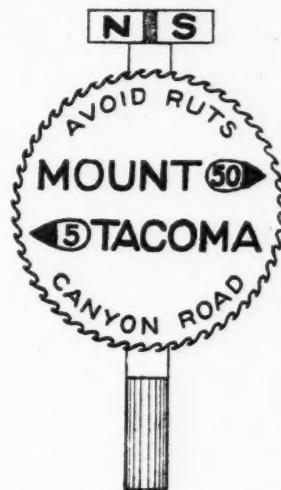
To Improve West Virginia Roads.

Morgantown, W. Va.—Chief Road Engineer A. D. Williams is appealing to the citizens for co-operation in improving the highway system of the State. He wishes to establish a system of roads connecting each county seat with those of adjoining counties, thus making trunk roads throughout the State. The roads are to be well graded and drained. The State Road Bureau of the Railway and Highway Department of the State University is to give material help by preparing data of costs and plans of bridge and road projects. The university will test all road materials. Engineer Williams further invites and advises the counties to send their road engineers and district men to the University to take advantage of the special course during the winter in road building and maintaining.

Saws As Road Signs.

Tacoma, Wash.—County Engineer M. R. Thompson has developed an idea that will give the Mount Tacoma road signs that will not be warped by the weather or become useless through age. The round steel saw, typical of the chief industry of the county will be used.

Chairman W. H. Reed of the board of county commissioners has arranged to get the saws—50 of them—from the St. Paul & Tacoma Lumber Company. Where the saws are not nailed to trees, a hole will be bored in the tops of the cedar posts on which they will be erected, and a north-east-south-west cross, mounted on a pin, will be firmly driven into the hole. This will help locate places a short distance off the road.



The lettering will be reduced to a minimum and will be in plain block letters as large as possible and the signs will be put up at a uniform location along the roadside, and a height of about six feet above the roadbed.

Police signs, warning signs and turn-off signs will be placed from time to time. The signs will be placed over 55 miles, the distance from Tacoma to the gate at the National Park entrance. The first sign will go up at the city limits, five miles from the center of the city, where the county's concrete pavement starts, or at the south end of the county's paving. A little south of Spanaway Lake, a 10-mile post bearing a large saw painted blue will be erected. All told there will be 40 white, five red and five blue mile posts between the depot and the park gate. The five-mile signs will be small red saws and the 10-mile posts large blue saws with white letters. The signs will do two pieces of work at once by giving distances and direction for one, and by urging motorists to keep out of the rut.

\$200,000 Paving Work in Tacoma.

Tacoma, Wash.—There is now going on in Tacoma \$200,000 worth of street paving alone, representing a total of approximately five miles of the best streets.

Work was started on all the contracts included in this total, either this spring or this summer, and in nearly all the large contracts the contractors have made such rapid progress that the five miles of new streets should be completed before the end of the year.

Fife street, from South Eighth to North 21st street, is being paved with asphalt-concrete. The five-inch concrete base for the paving, which is the standard followed in Tacoma contracts, has been laid and the street is just ready for the asphalt. A similar concrete base has been laid on the Oakes street job, which is being paved from Sixth avenue to North 21st street. A two-inch wearing surface has also been laid for three-quarters of the distance under contract, so that this work will soon be completed. The base has been laid and work has just started on asphaltting on the North 26th street contract. This includes 26th, from Proctor street to Union avenue, and Proctor street, from North 26th to 29th street. One of the largest contracts is that of Yakima avenue, from South 38th to 48th street. Some work has been done on this, but the base is not all laid. A good start has been made on laying the concrete base for the North I street contract, which includes North I street, from Sixth to Steele street, and each intersecting street from K to I street, Eighth, Ninth, Tenth and Eleventh streets. The North Sixth street contract is also under way, including that street from K to Ainsworth and Sheridan avenue, from Fifth to Sixth, and O street, from Fifth to Sixth street.

Brick Pavement Only Half-Worn After 25 Years.

Binghamton, N. Y.—The removal of brick from State street, between Henry and Lewis streets, has demonstrated

the wearing capacity of that material for paving purposes when properly laid. The State street pavement was laid nearly 25 years ago. At that time the frequent repairs found necessary on asphalt pavements had raised a protest from the taxpayers whose demands for a brick pavement were granted.

The State street pavement was laid over the old canal which had been filled by using it as a dumping ground. The concrete foundation collapsed in spots, but the bricks have stood up well.

Those removed showed that they have been worn half through, but the wear has been even and there has been no chipping off or cracking such as is found in some of the more expensive bricks of the day. It was the superior quality shown by this sample, placed on the street for other purposes, which was largely instrumental in winning the people of this city to brick pavements.

City, Under Ordinance, Cannot Pay Contractor.

Philadelphia, Pa.—Solicitor Ryan, in an opinion given to Controller Walton, declared that by the annulment of the contract of June 27, 1913, Edwin H. Vare could not be paid \$15,391.79 due him for work performed by him on the Southern Boulevard, but suggested that Councils appropriate the money as a moral obligation on the part of the municipality.

At the time the contract was annulled, Senator Vare agreed to give up all claims of whatever nature growing out of his agreement with the city. It subsequently developed, however, that by an oversight, all parties had overlooked the sum due the contractors for work under the old contract.

Mr. Ryan said that a municipality can only be bound in writing, and it is duty to follow the written rather than the vague oral report of what may be the real situation. He said, in doing so a hardship may result to the contractor, but the defect can be remedied by ordinance of Councils recognizing the moral obligation of the city, and, though this means of correcting the error may entail delay, he thought it better to follow the method provided by law for meeting such a situation, than that the responsibility be taken of altering the effect of a written contract of the city upon mere representations.

Second-Class Townships Must Elect Road Supervisors.

Harrisburg, Pa.—About 1,400 second-class townships of Pennsylvania must elect supervisors in charge of the public highways in their districts this year, under the terms of the township road act of July 22. The act places the control of all township highways under the State Highway Department, which is proceeding to establish a bureau of township highways to assist the supervisors. The act also changes the title of the supervisors from road supervisors to township supervisors and creates a system whereby the townships may receive standard plans and specifications for bridges and road construction and improvement, advice as to methods and such aid as may be extended by the engineers of the state. Under the act the terms of the township supervisors are to be six years, instead of three and four as has been the case under former laws. At the November election one supervisor is to be elected for six years and one for four years, and then, at each election thereafter one for six years. One supervisor will hold over, it being provided that the terms of supervisors elected in 1909 and 1910 shall expire this year.

City Must Furnish Own Specifications.

Eugene, Ore.—Holding that it is the duty of the City Council to furnish its own paving specifications instead of allowing the contractors to furnish them, Judge L. T. Harris, of the Circuit Court issued a restraining order against the city and the Clark & Henery Construction Company, permanently enjoining them from paving Tenth avenue, East, between Pearl and Mill streets, and Mill street between Tenth and Eleventh avenues, East. George Kinsey and others, several weeks ago sued the city and the paving company to stop the work. Kinsey and several others named as plaintiffs had signed a remonstrance against the improvement.

SEWERAGE AND SANITATION

Typhoid Fever Ravages.

Landis, N. J.—Several cases of typhoid fever in this township caused the Board of Health to hold a special meeting in an effort to learn the cause of the contagion and check its spread before an epidemic is created. Four typhoid cases were reported, two as having been contracted out of town, but Dr. Hatch said he had been unable to trace the origin of the others. He stated further that conditions in the township were very good for a typhoid epidemic. He said he favored an ordinance compelling surface drains to be abandoned and cesspools to be built in connection with all outhouses.

Evansville, Ind.—Typhoid fever here is spreading so rapidly and so little is being done to prevent it that the state board of health may find it necessary to step in with drastic action, according to Dr. Will Shimer, superintendent of the state's pathological laboratories, who made a trip to Evansville to investigate conditions shortly after the beginning of the present epidemic. He criticised officials there because of their seeming lack of appreciation of the seriousness of the situation. Up to the beginning of last week, when he received his last report from the local health authorities, Dr. Shimer said 198 cases of typhoid had developed. Officials at Evansville constantly refused to send in reports of conditions to the state board. The milk inspection of the city is entirely inadequate, Dr. Shimer says. When he was there he ordered that a rigid inspection of the milk supply of Evansville be made. The result was an inspection of the farms for a distance of four miles about the city. The bulk of the milk supply comes from distances up to forty miles away, and the city officials, he says, should expend whatever is necessary to trace the source of the milk supply, inspect it properly and thus avoid the danger of disease from that source. Dr. Shimer said he was practically certain that the water supply of the city was not contributing to the spread of the disease. Lack of reports of progress in the work of the health officers there embarrassed the state board materially in any co-operation it might offer, he said. Calls for additional anti-typhoid vaccine formed the only news the state board received.

St. Louis, Mo.—Dr. C. M. Starkloff, of the city health department, has investigated 64 cases of typhoid fever in St. Louis and found that 18 per cent. of the patients had frequented public or private swimming pools, 42 per cent. had taken vacations in the country or small towns and had drunk well or spring water, and 25 per cent. had been on steamboat excursions. The surgeon in charge of the United States marine hospital notified steamboat owners that they must get from the health department certificates as to the purity of water on their boats. Many boats have been taking water directly from the Mississippi river and putting it through filters. Several city sewers empty into the river.

Chester, Pa.—The State Board of Health has investigated a dairy which served milk to a large percentage of the typhoid patients in the city. There they found a person convalescing from a disease that might have been typhoid. All cattle were transferred to another farm and the utensils sterilized.

Lyndhurst, N. J.—Dr. John W. Clark, town physician, has reported to the Board of Health that an epidemic of typhoid fever had started in the town and that within a week nine cases had developed. All the patients are less than eighteen years old. The physician said he believed the water was the cause and recommended that steps be taken at once to ascertain the true source of the infection. John Whipple declared he had been told the source of the water supply at Boonton had been contaminated. Dr. Clark said the infection could emanate from three causes—the use of wells, the use of city water and from milk. After some discussion Commissioner James A. McKenna offered a resolution directing Health Inspector Stagmire to procure a bottle of water from every well in town as well as samples of the city water and all milk sold here. The samples will be sent to the State Board of Health for immediate examination.

\$10,000 Mosquito Fight.

Trenton, N. J.—The contract for the work which is expected to rid a large section of Atlantic county of mosquitoes, has been approved by Governor Fielder. It is between Jesse P. Manahan, of Red Bank, and Dr. Jacob P. Lipman, director of the State Agricultural Station, and calls for the ditching and filling in of marsh land in Atlantic City, Ventnor, Longport and Margate City, so as "to free it from mosquito breeding pools." The work (mostly ditching and filling) is to be done at a cost of \$10,000 and is to be completed by October 1. The scheme is authorized by the laws of 1906, providing for mosquito extermination under the direction of the State Entomologist.

Indiana Towns' Sewage Disposal Problem.

Washington, Ind.—Every city and town in Indiana must make arrangements for the disposal of sewage and all waste matter other than dumping it into streams of the state, according to Jay Cravens, sanitary engineer for the state board of health, who with three assistants, is here making a sanitary survey of White river. That stream is so thoroughly polluted between Indianapolis and Martinsville, Mr. Cravens said, that doors at farm houses must be kept closed and land values along the stream have depreciated because of the stench from the water.

Files Bond in Sewer Fight.

Yonkers, N. Y.—A five thousand dollar bond, which the supreme court has ordered Mrs. Maria Haltigan to file in order that her temporary injunction against the Bronx Valley sewer commission might be continued, has been received at the county clerk's office. The injunction restrains the commission from building its sedimentation plant in Tibbets valley until later this month when argument will be had as to whether the injunction shall be made permanent. The bond has been approved by Justice Morschauer at Poughkeepsie.

Filter Beds Become a Nuisance.

Altoona, Pa.—Nauseating odors, emanating from the municipality's filter beds, have been for some time a nuisance to persons residing in their vicinity and passengers on trains of the Pennsylvania Railroad, between Burns' Crossing and Meadowbrook, a distance of at least one mile. Since the drought has caused the run to be dry in that locality for some time past, the stench must necessarily be attributed to the filter beds, which do not seem to be performing their functions, and inasmuch as the nuisance has become protracted the city engineering department will be called upon to devise ways and means for the elimination of the nuisance. As yet City Engineer Engstrom has taken no action.

Sewer Farm a Gold Mine?

Dinube, Cal.—While at work inspecting excavating work being done for the new city septic tank E. C. Snell, a member of the city council, discovered a small quantity of flakes of gold in the sand. He had it assayed and the tests lead the council to believe that the city owns a veritable gold mine, the sand assaying \$8 to the ton. The excavations were being made on a sand ridge several hundred feet wide. If all the property shows gold in amount to the assay already made extensive operations will be immediately commenced on working the sand. The property includes 35 acres and was recently purchased by the city for a sewer.

Mayor Tears Up Tree Against Injunction.

Schenectady, N. Y.—Asserting that a court injunction served upon the City of Schenectady would not affect him, Mayor George R. Lunn laid aside his coat and hat, jumped into a ditch in which a big sewer was being laid, and cut down a fifteen-year-old maple tree unassisted. The owner and his wife tearfully pleaded with the Mayor not to destroy the big shade tree, but the Chief Executive only replied that the sewer was to be laid as planned, and that if city employes were restrained from clearing the path, he would clear it himself. Attorneys for the tree's owner said tonight that Mayor Lunn would be prosecuted for contempt of court, arrested for mutilating a shade tree contrary to city ordinance, and sued for trespass. After he had completed the job, Mayor Lunn said: "I sincerely hope

that we have arrived at a time when these miserable injunctions, secured for political effect, will cease to interfere with legitimate and necessary public work. At least I am sure that in the future, if they do bring injunctions, they will name the mayor in the injunction."

WATER SUPPLY**Reading's New Filtration Plant.**

Reading, Pa.—The completion of the Maiden Creek filtering plant places Reading's water system on a par with any city in the state, barring Philadelphia and Pittsburgh. The northeastern section of the city with a population of 65,000 is now supplied with filtered water for the first time. It was constructed by the H. E. Ahrens Company. The new plant, costing approximately a quarter of a million dollars, has a capacity of 12,000,000 gallons every 24 hours. It is larger than all the other filtration plants combined. It consists of ten covered slow sand, filter beds, with necessary adjuncts. Each bed is 98 by 206 feet inside. The entire plant has 12,000,000 gallons capacity with one bed out of commission for scraping and another bed out of commission for sand washing. The filters are so placed that high water in the creek will not affect operations. From the filters the water runs by gravity through a 36-inch cast iron pipe to a pump well, located east of the pumping station. The filters differ from those at the Antietam and Egelman beds in several particulars. Instead of being open they are covered by means of groined arches of concrete, supported upon concrete pillars, with two feet of earth and loam, filling over the tops of the arches, and in place of the sand storage area, an extra filter bed has been provided for sand washing operations. The method of cleaning the filter is similar to that used at the Bernhart filters, which is to scrape the dirty sand in longitudinal rows between the pillars until a sufficient amount has accumulated. The Nicholls sand washer is then let down into the spent sand, washed and spread upon the bed. The dirty water is carried away in pipes to a drain in the corner of the bed. The water for washing is supplied by means of pumps driven by gasoline engines to be located in the filter house. The construction work of the plan was begun on Oct. 13, 1908. A tract of over 29 acres comprises the site where the plant has been built. The work of constructing the raw water conduit with its appurtenances, was done by Lambert A. Rehr, assignee of S. W. Chiles and W. A. Witman. Ground was broken on this contract on March 31, 1909. The entire job consists of 20,000 cubic yards of concrete, or 40,000 tons. By Oct. 1, 1912, the actual construction of the filters was complete. The next step was placing the underdrained material in the beds. Approximately 6,000 tons of varying sizes of stones were placed in the beds as underdrained material. The roof of the plant is supported by 840 concrete pillars. Between 50 and 60 men are at work daily covering the roof. The work throughout was in charge of Supt. William A. Ely.

Saving City Water.

Niagara Falls, N. Y.—The city is saving at least three million gallons of water daily and over \$5,000 a year as a result of the stopping of waste in the municipal service, according to a report made to the Water Commission by Engineer H. P. Matte of the Pitometer company of New York who has been here for three months tracing leaks. His inspection showed that 80 buildings were being supplied with city water, of which the department had no record.

The inspection survey shows:

Quantity of water saved through inspection to date, 2,000,000 gallons per day.

Underground flush tanks, 600,000 gallons per day.

Underground leaks found and repaired, 400,000 gallons per day.

Total 3,000,000 gallons per day.

Saving in power and chemicals per year, \$3,572.

The total yearly amount saved in pumping and increase in revenue after three months, and a half of survey and house to house inspection, is \$8,963.

Cost of work done by engineers about \$2,987.

Cost of house to house inspection, to date about \$952.

Total \$3,949.

Total yearly saving as above, \$8,963.

Net gain for first year, \$5,014.

The total number of leaks found up to date, amounts to 2,138; out of which about 1,300 have been repaired.

The average, daily consumption at the present time, with the increase in the number of water-takers, the increase in consumption among the large consumers, together with the fact that the sprinkling season is at its height, is 13,500,000 gallons per day. The average daily consumption at this time last year was 16,000,000 gallons, an apparent gain of 2,500,000 gallons per day. The average pressure on the mains is greater than it was last year at this time by 20 pounds at night and five pounds during the day as a result of reducing the leakage. This means an increase in the pumping of about 1,000,000 gallons per day through the remaining leaks. If the pressure at night were equal to the pressure in the daytime an additional saving of about \$1,000 a year would result. The night rate would be reduced by 2,500,000 gallons per day. In order to effect this saving, the pumps should be altered to run at a uniform pressure with the varying consumption. A further reduction of 3,000,000 gallons per day will be obtained when the remaining leaks are repaired; while the pumping and filtration expenses will be diminished by \$3,600 a year. It was found that the city wasted much water. All sources have been taken care of except the city dump at which many thousands of gallons of water are wasted daily, and a number of the schools. Some of them are metered, but with defective meters in many cases. Three inspectors will continue to look for leaks, and turn off water of all consumers who have failed to remedy those already found.

Council Bluffs' Water Supply.

Council Bluffs, Ia.—In the report just issued, the superintendent of the water works reviews the progress of the department. Over six miles of mains were laid at a cost of slightly over \$25,000. Thirty-seven new hydrants were set, seventy-nine gate valves set on mains and hydrants, 766 new meters installed and 251 new taps made. The cost of improvements, including that of the cast and iron pipe laid during the years, 1911, 1912, was \$184,222.93. The total pumping during the year was 980,329,000 gallons. The chemist's report states that the average cost was 22 cents to treat 100,000 gallons of water. During the year 99,000 pounds of alum and 11,295 pounds of bleach were used in treating the water. The financial report shows the gross earnings for the year to have been \$150,393.33. Of this \$34,460.16 was kept for operation, \$2,552.13 for distribution system upkeep, \$2,711.79 service maintenance, \$2,543.53 for general expense, \$2,000 for one year's interest on the \$600,000 bond issue at 4½ per cent., \$10,249.50 for 1½ per cent. depreciation of the plant, \$1,180.32 spent on refunds and discounts, \$1,054.37 on charge backs and \$49.27 for water hydrant rental in East Omaha. The net earnings for the year were \$55,481.15.

STREET LIGHTING AND POWER

Rate Slashing Competition Between City and Company.

Richmond, Ind.—The announcement by the city that beginning with January 1, next, there would be a 25 per cent. decrease on all electric lighting and power rates to users of the city's current, has been followed by the announcement that the Richmond Light, Heat and Power Company, the city's competitor, also will slash prices. It is believed that there is to be warfare between the city and the private company. The Richmond municipal plant has proved successful from the start, but there is some question as to whether it would be able to meet competition. At the present time many of the biggest consumers of electric power are customers of the private company.

Lighting Rate Reduction.

Providence, R. I.—As a result of a new contract entered into between the Narragansett Pier Electric Light and Power Company, the Wickford Light and Water Company, and the Narragansett Electric Lighting Company, short term users of electric lighting in Narragansett Pier and Wickford are to receive a substantial reduction in lighting rates. Heretofore the two companies have purchased their power from the Sea View railroad receiving their current from the powerhouse owned by that company at Hamilton. Under the

new contract the current will be sent direct from Providence. The public utilities commission has authorized the Narragansett Company to reduce the rates to short term users in Narragansett Pier from 31 to 26 cents per kilowatt hour and from 30 to 26 cents per kilowatt hour to users in Wickford. The reduction will take effect from the July meter readings. Under the new arrangement, the Sea View railroad is also to take its power from the Narragansett company, and the old power station at Hamilton will probably be abandoned.

Fighting for Municipal Ownership.

Los Angeles, Cal.—The private power companies are planning a campaign against the proposition to call another election for the purpose of voting on bonds for building a municipal distributing plant. An interesting phase of the situation is that while these private companies ask consideration of all their propositions stress is laid principally upon the one which provides for the city taking over such part of the existing distributing plants as it can utilize, and operating this for the distribution of the power. The argument is advanced that under this plan the city would be able immediately to utilize its electric power and at the same time retain control of the distribution, dealing directly with the consumer without leasing the power. It will be remembered that originally four propositions were submitted by the power companies, the other three being as follows: First, the city to turn over the power generated at the municipal plants to the private companies, either under a sale or lease; second, the city to employ the private companies to act as its distributing agents; third, the companies to distribute the power for the city on a sort of profit-sharing plan; that is, to enter into partnership with the city. None of these plans proved acceptable to the city, mainly for the reason that the companies absolutely refused to insert a provision for the sale of the plants to the city at a definite time and at a specified price. The request of the power companies will doubtless receive due consideration at the hands of the public service committee, but no disposition was manifested on the part of any of the members of the council to delay proceedings for the calling of another bond election. As a rule they take the position that until the city is financially able to build its own distributing system it will hardly be worth while, judging by their present attitude, to attempt to secure an equitable arrangement with the power companies. They feel that whatever deal is entered into now, the ultimate aim is the municipal ownership of the distributing plant, and to make this aim possible of accomplishment the city must vote sufficient bonds either to build or purchase a plant. That the power companies have gauged the sentiment of the people sufficiently to become convinced that they will not stand for a proposition to turn over the city's power to them is shown by the emphasis which they now place on this one plan under which the city would be able to distribute the power itself. But as this plan, like all the others, is defective in its omission of any provision for selling the plants, its renewal is not received with any degree of enthusiasm on the part of the members of the city council.

Virginia, Minn.—The supreme court has sustained Judge Martin Hughe's ruling in the Virginia water and light acquirement case, which was in favor of the mayor and city council, and unless the council is further restrained it may now go ahead and make the sale of the \$450,000 in bonds with which to purchase the plant. The city has an option on the plant which will expire Oct. 1. The price is \$492,000 plus the value of recent improvements made by the company. Appraisers have commenced work to ascertain these values and unless the city authorities are further delayed, the plant will pass into the ownership of the city during this month. By the terms of the first arrangement the new commission was to have assumed charge of the property April 1 of this year. Those named on the commission are John D. Lamont, Max Lewis and John W. Murphy. Various persons interested have expressed the opinion that there will be no further litigation and that the plant will become city property without further objection by those who have opposed municipal ownership.

Yonkers Celebrates New Lighting System.

Yonkers, N. Y.—This progressive city has just celebrated the installation of a new public lighting system in the business sections. For years the chamber has been a vigilant advocate of a better street lighting power for Yonkers. When the Merchants' Association was organized not long ago another champion for brighter illumination appeared on the scene. Hand in hand the two organizations have worked to bring about the placing of the new street lights in the business centers, and their efforts in this respect have been helped in every way possible by Mayor Lennon, many other city officials and a number of the biggest taxpayers of the community. All the political organizations, as well as the fraternal and social associations of the city were well represented in the gala ceremonies. Most of the industrial concerns of the town participated in this eventful celebration. The poles on which rest the incandescent lights are manufactured in a variety of decorative styles, whereas the old arc poles are nearly all alike, unsightly and topheavy in appearance. These incandescent lights carry no overhead wires for public street lighting, although for individual purposes, that is, the illumination of shop fronts, it is still necessary in most cases to string wires in front of the buildings. The incandescent lights are one 100-watt and four 60-watt tungsten. The one 100-watt lamp adorns the top of the pole, and the other four lights are grouped immediately under it. The lamps are equipped with a model reflecting globe. There have been installed in the business heart of Yonkers one hundred and fifty of the new lampposts. The lights that are atop of the pole will illuminate about six thousand lineal feet, or a little more than a mile. The city of Yonkers has paid for these poles, and has contracted with the Yonkers Electric Light & Power Company for the supply of necessary electric power and the proper keeping of the incandescent globes and decorative poles. The celebration consisted of a parade of six divisions—automobiles, military, municipal, merchants, civic and fraternal and industrial; the formal turning on of 750 lights simultaneously; presentation of prizes and a dinner.

Municipal Lighting Plant Surplus.

Pasadena, Cal.—After paying all operating expenses, charging interest on the total average investment; and allowing a sufficient sum to cover depreciation, the Pasadena municipal lighting works department had a surplus of \$41,749.16 on June 30 last, according to the annual report for the fiscal year 1912-13, drawn up by General Manager C. W. Koiner and presented to the city commission by M. H. Salisbury, commissioner of public utilities. The report shows that during the past year considerable extensions were made and that a great saving to all citizens of Pasadena has resulted from the establishment of a municipal lighting and power plant, by reason of the great reduction in rates charged for electric energy and power. General Manager Koiner says that Pasadena claims a saving of not less than \$408,000 from October 1, 1908, to June 30, 1913, as a result of the establishment of the municipal plant. He says that the citizens of Pasadena have saved sufficient by reason of the difference in electric rates to pay for the entire plant. In addition, the plant remains as a valuable asset paying its own way from its earnings. The earnings for 1912-13 were \$138,889.49, as compared with \$123,485.11 in 1911-12, an increase of \$15,404.30. The expenditures for 1912-13 were \$70,083.45, as compared with \$63,161.02 in 1911-12, an increase of \$6,912.43. The balance for bonds, interest, depreciation and profit on June 30, 1913, was \$68,815.96, as compared with \$60,324.09 on June 30, 1912, an increase of \$7,491.94. The output in kilowatt hours for the year was 4,022,230, as against 3,270,876 the previous year, showing an increase of 751,354 kilowatt hours. The manufacturing cost per kilowatt hour, decreased and so did the distributing cost, the total cost of manufacture and distribution per kilowatt hour for all current generated being .01742, as compared with .01931. The operating expenses were 50.45 per cent. of the gross income. The meters in operation on July 1 numbered 4,777, as compared with 4,164, an increase of 613 during the year. The efficiency to the distributing system is 78.44 per cent. The method of financing the plant, was, in detail:

Direct taxation from Sept., 1906, to July, 1907, for beginning construction work, during the time that the Edison Company held back the sale of the electric light bonds	\$52,332.35
Unearned balance of street lighting transfers	2,299.95
Bonds paid out of general fund because income of plant was used for new extensions and machinery	35,000.00
Interest on bonds paid out of general fund because income of plant was used for new construction and machinery	53,343.76
Total amount raised by taxation	\$142,976.06
Loans from general fund (\$11,000 of this has been repaid from operation earnings).	
Bonds issued	325,000.00
(\$43,125 of these have been redeemed, \$35,000 from the general fund as stated above and \$8,125 from operation earnings)	
Premium on bonds	3,836.43
Total amount received from taxes and bonds for all purposes	522,812.49
Deduct interest paid and bonds redeemed	88,343.76
Net amount of money invested in plant out of taxes and bond proceeds	434,468.73
Gross amount of money invested in plant derived from operating profits	173,559.31
Unprecedented value of plant	608,028.04
Less depreciation	103,463.06
Net value of plant (depreciated)	504,564.98
To which should be added—	
Cash on hand June 30, 1913	5,125.90
Amounts receivable (all good)	16,471.89
Inventory, construction material and supplies on hand	15,237.58
Total assets, value of plant	\$541,400.35

The following statement shows the amount of money spent the past year for construction purposes:

Station equipment	\$657.15
Overhead lines for commercial service:	
Poles	3,207.11
Wire	15,702.02
Miscellaneous	4,082.01
Underground cables and wires for general service	215.00
Overhead lines for public lighting:	
Poles	734.95
Wire	2,561.67
Miscellaneous	855.19
Underground cables and wires for public lighting	724.39
Transformers	9,827.66
Meters	7,674.13
Incandescent street fixtures	778.75
Buildings and real estate	1,023.74
Furniture and fixtures	1,046.86
Tools	1,379.45
Underground conduits for commercial service	605.95
Underground conduits for public lighting	302.18
Automobiles and motor cycles	4,490.35
Total	\$55,968.56

The rates have undergone considerable reduction since the beginning of the plant. At the time of the inauguration of the municipal lighting plant, a base rate of 12½ cents per kwh. was charged for the first 666 kwh. While this rate was lowered to meet the eight-cent rate established by the city for current supplied from its municipal plant, the 12½-cent base rate continued in force in various other Southern California cities supplied by the company in competition with the city of Pasadena. Ultimately the base rate in some of the various other cities was reduced to 10 cents until January 1, 1913, when a base rate of eight cents was established. The facts are that the difference between the eight-cent rate charged in these other cities and the five-cent rate charged by Pasadena's municipal light plant, shows that there is a difference of 37½ per cent. in favor of municipal ownership as against regulation. In other words, the people of Pasadena pay 37½ per cent. less for their electric energy to the municipal plant than the consumers in various other Southern California cities supplied by the competitor of Pasadena's municipal lighting plant.

FIRE AND POLICE

Indiana's Heavy Fire Loss.

Indianapolis, Ind.—Revised figures show that the total fire loss in Indiana, as reported to the state fire marshal from May 15 to July 31, inclusive, was \$3,163,752. This announcement made from the fire marshal's office shows the tremendous waste suffered in Indiana by fire in a period of less than three months, and indicates a yearly loss exceeding \$12,000,000 should the present rate continue. The office of the state fire marshal began its work on May 1, and on May 15 the fire marshal's 1,500 assistants through the state began reporting fires as they occurred. Up to the present

time, 2,666 fires have been reported. During the last half of May, May 15 to 31, 530 fires were reported, with a total loss \$565,364. In June there were reported 994 fires, with a loss of \$683,510. July broke the record with 1,142 fires and a loss of almost \$2,000,000. The exact figures to date are \$1,914,878. This makes a total to July 31 of \$3,163,752. During the entire period, from May 15 to July 31, the average loss for each of the 2,666 fires was \$1,149. This period, from May 15 to July 31, includes 77 days. Since there were 2,666 fires reported, the record shows an average of 34 fires for each day. And dividing the total loss of \$3,163,752 by 77, it is found that during that period the daily fire loss of Indiana is \$41,087. State Fire Marshal W. E. Longley urged the importance of greater precaution and the possibility of fire prevention.

Higher Pay for Firemen.

Salt Lake City, Utah.—In accordance with the agreement at a meeting of the city commission the ordinance of the mayor providing for a general increase in pay for firemen, effective January 1, 1914, was passed. The average increase is \$10 per fireman, except the chief, who gets no raise. The Mayor presented the old petition of the firemen for a raise, and the petition of the Federation of Labor in support of it, and recommended that they be filed and the ordinance granting the raise be taken up in regular order. This motion carried unanimously, as did the ordinance providing a raise effective next year. The new scale of wages, which will become effective January 1 next, is as follows:

Chief, \$2,400, no change; assistant chief, \$1,740, raise from \$1,440; captains, \$1,500, raise from \$1,150; lieutenants, \$1,260, raise from \$1,080; engineers, \$1,200, raise from \$1,080; superintendent of fire and police alarms, \$1,500, raise from \$1,200; inspector, \$1,260, raise from \$1,080; secretary, \$1,200, raise from \$1,080; firemen of first grade, \$1,200, raise from \$1,020; second grade, \$1,080, raise from \$960; third grade, \$960, raise from \$900.

All members of the commission had gone on record before as favoring a raise for the firemen next year, hence their action now in voting for the ordinance, they explain, was not a victory for the Mayor or the firemen brought about by the threat to strike and the pressure that was brought to bear to compel the commission to grant more pay. The resolution of the commissioner of waterworks providing a raise of 25 cents per day for all laboring employees of the city, effective January 1, 1914, was not taken up, but the commissioner of waterworks announced after the meeting that when the resolution does come up it will pass. A canvass of the commission indicates that it will be passed by unanimous vote when reported out from the committee of the whole. In reading the amended fire ordinance making the change in salaries it was noted by the commissioner of waterworks that there is a provision whereby soldiers who have served a term of enlistment may be appointed into the second grade without service in the third grade. The commissioner demanded to know why the Mayor should show preference to soldiers over citizens of the city. The Mayor replied that it was because the soldiers who had served an enlistment had had a number of years experience and were better prepared to handle the work of firemen than the inexperienced citizen. He remarked that any citizen with experience could not only be appointed into the second grade, but if qualified might go directly into first grade. At the request of the Mayor the new ordinance was further changed so as to give him sole power to approve the acceptance by a fireman of a gift or reward instead of having the approval made by the commission as a body.

Firemen Want Twelve-Hour Shift.

Pueblo, Colo.—A 12-hour day shift for members of the city fire department instead of the present 24-hour system, will be asked of the people of Pueblo at the next general election this fall. Attorney John A. Martin, representing the members of the fire department, has announced that he was preparing an initiative petition for signature which will place the question on the regular ballots. Under the present system the firemen remain on duty throughout the day and night, except for time off for meals. They have every fifth 24 hours off. At the election, according to the state-

ment of Attorney Martin to the city commissioners this morning, they will ask for a 12-hour day without the fifth day off. The proposition came somewhat as a surprise to the city commissioners, as it was evident that they had not even considered such a plan. It was stated that it would necessitate the employment of a double shift of firemen and increase the expense of the department \$16,000 per year. The council has as yet taken no official notice.

Fire Improvements Give Passaic Lower Rates.

Passaic, N. J.—C. H. Fischer, hydraulic engineer of the New Jersey Fire Actuarial Bureau, has begun a tour of this city with the purpose of re-rating it. Mr. Fisher is accompanied about Passaic by R. E. Lent, secretary of the Board of Trade, Fire Chief R. H. Bowker and Assistant Fire Chief W. S. Gibson. A survey was made of the fire department and improvements and of many buildings. A test was made of the water pressure. The board of trade has been agitating for lower insurance rates and Mr. Fischer has come as a result. Atlee Brown, who fixes fire insurance rates from one end of this state to the other, has told the board of trade that Passaic will be re-rated and that the new rates will be lower than the present. That there is every reason for lower insurance rates here insurance men and others generally admit. The prices now charged by insurance companies are about the same as in the days of the volunteer fire department, since which time extensive improvements have been made in the fire department and in other fields, greatly minimizing fire risks.

More Policemen for New York.

New York City, N. Y.—New York City is to have five hundred more policemen. Police Commissioner Waldo has stated that provision had been made for the added expense and that he would start appointing the new men at once. The addition will raise the police force to ten thousand eight hundred. Commissioner Waldo, who has just returned from studying European police methods, added that he would adopt the system of gymnastics used by the police of Sweden.

MOTOR VEHICLES

Three New Trucks for Lynn.

Lynn, Mass.—The council has voted to purchase three new Federal trucks for use in the fire department. The council chose trucks made by the Federal Motor Truck company because the two trucks of this company already in the city's service in the water and highway departments have given very satisfactory work.

Automobile Patrol for Oswego.

Oswego, N. Y.—The new automobile patrol, which was recently purchased by the Department of Fire and Police for the Police Department, has arrived. The machine, which is of the latest Buick type, can be used for both police and ambulance purposes. Patrick R. Keating of the Keating Garage and Engine Company, which will furnish the apparatus, has agreed to teach four of the patrolmen the methods of operating the patrol. The patrol will be kept in a garage to be erected at the rear of the City Hall.

Tractor for Wilmington Engine.

Wilmington, Del.—The fire fighting equipment has been improved by the addition of another motor driven apparatus, the Weccacoe Company receiving from the Christie Front Drive Company of Hoboken, New Jersey, their engine, with tractor. A demonstrator of the tractor company is instructing Thomas Kelley and Frank Gebhart, in operating the machine. It went up Eighth street hill from Monroe to Broome streets on the high gear at the rate of 24 miles an hour. The machine, which is one of 90 horse power, cost about \$4,250 and can make thirty miles an hour on level road. The Brandywine Fire Company which has decided to supplant its horse drawn apparatus with motor machines, has shipped the engine to Hoboken to be equipped with a Christie motor and is expected to be in service within a short time.

GOVERNMENT AND FINANCE

Third Class City and Commission Government.

South Bethlehem, Pa.—Citizens of this borough at a special election have shown their progressiveness by declaring in favor of a third-class city charter by a vote of 821 to 595, a majority of 226. This gives South Bethlehem the distinction of being the first municipality to vote for commission rule under the new law. Only 43 per cent. of the total of registered voters came to the polls. The first and second wards gave large majorities in favor of the city charter. The election was characterized by the individual work of the liquor interests, whose vote influencing was mostly carried on in what was termed as an "over-the-bar" campaign. A week or so before the election the hotel men and saloonkeepers decided not to fight the third-class city charter as allied interests, but to let the individual license holder carry on his campaign of opposition as he saw fit. One influence against the charter was the fear entertained by many property owners that taxes would be vastly increased. Erwin Zifert, of the second ward, was the leader of the progressive movement. The elective officers are a mayor, four commissioners, a controller and an alderman in each ward. The offices of city clerk, assessor, engineer, treasurer, etc., are filled by the mayor and commissioners by election. For their first term of office the commissioners will receive \$750 and the mayor \$1,200 per annum. Thereafter the salaries of the commissioners may be fixed at from \$250 to \$3,000 and that of the mayor not more than \$3,500, the commission having the power to fix the salaries. However, the salaries may not be changed during term of office. The commission is vested with all the executive and judicial powers formerly held by council, with several additions. The positions of mayor and commissioners are much more responsible and the duties of the same are more complex than that of chief burgess and councilman.

Pasadena's Budget.

Pasadena, Cal.—Arranged by Financial Expert William Dolge, of San Francisco, the budget for 1913-14 has been adopted by the city commission. The tax rate has been officially fixed as follows:

For the old city.....	1.140
For North Pasadena.....	1.094
For East Pasadena.....	1.066

The total revenue is estimated as follows:

From taxes	\$577,893.60
Licenses, fees, etc.....	100,618.90
Water department	248,000.00
Lighting department	143,500.00
Total cash available.....	282,201.75

Total available for all purposes.....\$1,352,314.25

The expenditures for the year will be:

General government	\$59,110.00
Protection of person and property.....	141,921.00
Conservation of health and sanitation.....	44,973.65
Streets, bridges, etc.....	292,792.64
Sick and helpless.....	6,000.00
Library	27,000.00
Parks, celebration and entertainment.....	16,112.00
Municipal service	19,050.00
Miscellaneous	22,616.27
Water department (operation and maintenance).....	183,684.36
Lighting department (operation and maintenance).....	143,500.00
Bond int. and redem	129,037.84
Total	\$1,115,797.76

Of the balance, which amounts to \$236,516.49, the sum of \$197,254.30 is to be carried forward to take care of the bills that will have to be paid in the next fiscal year before the taxes come in. That leaves an unappropriated amount of \$39,261.76 of which \$26,486.52 belongs to the water fund and \$4,846.37 to the lighting fund, leaving a free surplus of \$7,928.87 for emergencies.

Good Market for St. Paul Bonds.

St. Paul, Minn.—Bids for more than \$1,000,000 of bonds to cover the cost of street repairs, sewers and water mains have been received by the city sinking fund committee. One of the surprises was the bid of a Boston firm for \$250,000 4½ per cent. main sewer bonds and \$150,000 4½ per cent. water extension bonds at \$100.02 and accrued interest. Heretofore 4½ per cent. bonds have been a drug on the market, and the fact that an outside concern offers a small premium for such bonds now indicates that the bond market is improving.

MISCELLANEOUS

City Defeated on Billboard Question.

Milwaukee, Wis.—The city of Milwaukee has lost its fight against the "billboard nuisance." In rendering a decision against the city in favor of the Cream City Bill Posting Company and the Thomas Cusack Company in a suit brought by the city alleging a violation of the city ordinance applying to the billboards, Judge Fritz said that under its police power the city can regulate and control the construction of bill boards only insofar as to protect the health and safety of the citizens, but it can not, for aesthetic purposes, deprive lot owners of the right to cover the entire space of ground with billboards if they wish, or to compel them to have open spaces at both ends of the billboards in addition to an opening at the bottom. Such an ordinance, the court ruled, would be an invasion on private property rights and therefore is unconstitutional, null and void, as it would deprive a person of his property rights without due compensation as guaranteed by the constitution of the United States and the laws of Wisconsin. The court orders that the city and its officials be perpetually enjoined from enforcing the ordinance or from interfering with the completion of billboards in process of erection, or the construction of any new signs, billboards or advertisements of the plaintiffs located on private property, or from removing any of these signs or billboards from any private property. The ordinance was passed by the common council on Jan. 31, 1910, and provided that billboards shall not be nearer than three feet to any building, more than twelve feet high and that the lower edge of the billboards shall not be more than three feet or less than two feet from the ground. The ordinance further provides that all billboards shall be constructed to withstand a wind pressure of forty pounds to the square foot, and be securely fastened and open at both ends so as to not obstruct passage. The trial of the case has been in progress for the last two months. It was a joint suit brought by the Cream City Bill Posting Company and the Cusack concern, asking an injunction restricting the city from enforcing the ordinance and making a test of the validity of the law. The plaintiffs claim that nearly all of their billboards were located on private property. During the trial of the case a number of firemen and police officers testified that the billboards were a menace to the city as they hampered the firemen in fighting fires and it was also alleged that refuse gathered in and around the billboards which meant an added danger to the health of the public.

City Hog Farm a Success.

Los Angeles, Cal.—The only municipally owned and operated hog farm in the world, in this city, is now a paying institution. George R. Shuey, the director of the farm, has just sold 287 hogs at a good price, the money going to the Water Department fund. The city owns 700 acres of land in the Owens valley planted with alfalfa and grain for the use of the Aqueduct Bureau and Shuey fed these to the hogs and the hogs prospered. He intends now to commence raising cattle for the market, forty head being on the ranch now, and in time he expects the profits to reduce the tax rate.

City Urged to Maintain S. P. C. A.

Los Angeles, Cal.—An urgent plea that the city council make it possible for the Society for the Prevention of Cruelty to Animals to continue its humanitarian work has been filed with the city clerk. The society recently was forced to abandon its work in the city, practically, for lack of funds. Formerly the expenses were sustained from fines collected, but now that money goes to the city treasury and the council has refused to donate money to the society's support. The county contributes \$400 a month. Councilman Fred C. Wheeler has conferred with Mayor Rose regarding the S. P. C. A. situation and suggested that if the city would let a contract for the humane animal work to the S. P. C. A. or the Humane Animal League the solution would be found. The mayor proposed that the Humane Animal Commission be consolidated with the city pound and that all humane animal work be done under the supervision of the police department.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Water Company—Power of City to Fix Rates—Repairs of Service Pipes.

City of Joplin v. Wheeler.—The state may regulate the rates to be charged by a public service corporation supplying, under a franchise, water to a city and its inhabitants, whether the franchise be granted by the state or a municipal corporation, and may delegate to a municipal corporation the power to fix rates to be charged. An ordinance, regulating the rates to be charged by a public service corporation for water supplied under a franchise to a city and its inhabitants, must allow a reasonable profit on the investment, and the expense of operation must be paid by the consumers, and an ordinance requiring the company to bear the expense of installing and keeping in repair service pipes from the mains to the property line, if deemed an ordinance to fix rates, is objectionable as unfair and unequal as to the consumer and the company. An ordinance requiring a water company, operating under a franchise granted by a city, to install and keep in repair service pipes from the mains to the property line, and making the failure so to do a misdemeanor, cannot be sustained as an exercise of the police power of the city to regulate the use of its streets. A city, granting a franchise to a water company supplying the city and its inhabitants, with water, may enforce reasonable ordinances regulating the performance by the company of its duty to the city and the inhabitants, and the proper and safe use of the streets in so doing, but an ordinance, to be valid, must be one to regulate the manner or to enforce the performance by the company of its duty already imposed by the franchise, and such an ordinance cannot create new duties.—Springfield Court of Appeals, Missouri, 158 S. W. R., 924.

Grant to Telephone Co.—Duration.

City of Owensboro, Appt., v. Cumberland Telephone & Telegraph Company.—The grant by municipal ordinance to an incorporated telephone company, its successors and assigns, of the right to occupy the city streets and alleys with its poles and wires for the necessary conduct of a public telephone business, is a grant of a property right in perpetuity, unless limited in duration by the grant itself, or as a consequence of some limitation imposed by the general law of the state or by the corporate powers of the city making the grant.—33 S. C. R., 988.

Public Improvements—Notice of Proposed Improvement.

Schulte v. Currey et al.—Where the resolution declaring the necessity for constructing a sidewalk, curb and gutter provides that the work shall be done in conformity with a general ordinance of the city, which requires the clerk to notify the property owners and give them an opportunity to construct the work in front of their own premises, the failure to give such notice renders the tax bills issued to a contractor for the construction of the work void. Where the preliminary resolution declared the necessity for the construction of a first-class sidewalk, as defined by an ordinance, which provided that such a sidewalk might be constructed out of any one of three materials, the resolution is not sufficiently definite to give in general terms the kind and character of the improvements, as is required, and the tax bills therefor issued are void.—Springfield Court of Appeals, Missouri, 158 S. W. R., 888.

Railroad Aid Bonds.

Truman v. Inhabitants of Town of Harmony.—Where a town authorized a bond issue in aid of a projected railroad to be exchanged for the railroad company's stock of equal par value, and the bonds after the exchange were sold to a bona fide purchaser for value, the fact that the stock was worthless did not affect the town's liability on the bonds, on the theory that the issuance of the bonds amounted to a donation, which the town had no authority to make.—United States District Court, 205 F. R. 549.

Ordinance—Violation—Nature of Action—Animals at Large.

Village of Koshkonong v. Boak.—A prosecution for violating a city ordinance is civil and not criminal in character; and hence a complaint therefor is to be determined by the rules applicable to other civil actions. A village ordinance provided that no hogs and certain other animals should be allowed to "run at large" at any time within the corporate limits of the village outside the inclosure of the owner, provided that the ordinance should not apply to any of the animals mentioned while being driven through the streets, avenues, or alleys of the village by the owner or other person having charge or control of them. Held, that the words "at large," as used in the ordinance, imported that the animals would be outside the inclosure of the owner without restraint or confinement, and that the provision that the animals referred to must be at large outside the inclosure of the owner did not constitute an exception which it was necessary to negative in a complaint in order that it might state a cause of action. Springfield Court of Appeals, Missouri, 158 S. W. R., 874.

Sewers—Ordinance—Competitive Bidding.

Myers et al. v. Wood et al.—The fact that the resolution and ordinance providing for the construction of a sewer required a drainage and sanitary sewer, when the specifications only called for a sanitary sewer, which was constructed, will not make tax bills issued therefor invalid, where the ordinance establishing the sewer district and contract for the construction of the sewer required it to be built according to the plans and specifications on file, thereby making the plans, with which the sewer construction conformed, a part of the ordinance. That there was but one bid for constructing a sewer did not prevent the bidding from being competitive, where there was a compliance with the law in establishing the district, publishing the notice for bids, and letting the contract. That the line for constructing a sewer was changed from a street, where much blasting would have been required, to the alley in the same block, where there were no such obstructions, will not invalidate tax bills issued for the work on the ground that the change prevented competitive bidding; since such obstructions could not have been foreseen when the original plans were made and the work submitted for bids.—Springfield Court of Appeals, Missouri, 158 S. W. R., 909.

Crossing Streets—Change in Grade—Right to Compensation.

In re Grade Crossing Commissioners of City of Buffalo. *In re Colvin St. in City of Buffalo.*—Under Buffalo Grade Crossing Act (Laws 1888, c. 345, as amended by Laws 1890, c. 255) § 12, providing that if the grade crossing commissioners shall decide that it is necessary for the purpose of carrying out any plan adopted by them that any street shall be closed or discontinued, or that the grade of any street or portion thereof shall be changed, and that any property may be "injured thereby" for which the owners are "lawfully entitled" to compensation, the commissioners may apply for the appointment of commissioners to ascertain the compensation to be paid to such owners or parties interested, where a grade crossing was abolished by elevating railroad tracks and depressing the street, the owners of property lying in the angle formed by the intersection of the street and railroad tracks were not entitled to compensation for injuries caused by the elevation of the tracks: the words "injured thereby" obviously meaning injured by the closing, discontinuance, or change in grade of a street, and the elevation of the railroad tracks not being a result of the change in grade.—N. Y. Court of Appeals, 102 N. E. R., 552.

Municipal Corporations—Liability for Debts—Extinguishment of Debts.

Wilson v. King's Lake Drainage and Levee Dist.—A municipal corporation cannot extinguish its debts merely by changing its name or reorganizing under a new charter, hence, where a corporation is extinguished, a new corporation succeeding it, serving the same people and taking over its property, the new corporation is liable for the debt of the old, even though the old corporation was only a de facto organization.—St. Louis Court of Appeals, Missouri, 158 S. W. R., 931.

NEWS OF THE SOCIETIES

Calendar of Meetings.

September 9-13.

AMERICAN PUBLIC HEALTH ASSOCIATION.—Annual Convention, Colorado Springs, Col.—S. M. Gunn, secretary, 755 Boylston street, Boston, Mass.

September 10-12.

NEW ENGLAND WATER WORKS ASSOCIATION.—Annual Convention, Philadelphia, Pa. Willard Kent, Secretary, Narragansett Pier, R. I.

September 17-18.

NATIONAL PAVING BRICK MANUFACTURERS' ASSOCIATION.—Tenth annual meeting and paving conference. Hotel Statler, Cleveland, O. Will P. Blair, Secretary, 824 Locomotive Engineers' Building, Cleveland, O.

September 22-26.

ILLUMINATING ENGINEERING SOCIETY.—Annual Convention, Hotel Schenley, Pittsburgh, Pa. Jacob Israel, Secretary, 29 West 39th St., New York City.

September 23-25.

LEAGUE OF IOWA MUNICIPALITIES.—Sixteenth Annual Convention, Marshalltown, Ia. Frank G. Pierce, Secretary, Marshalltown.

September 29-October 4.

AMERICAN HIGHWAY ASSOCIATION.—Annual Convention, Detroit, Mich. J. E. Pennybaker, Secretary, Washington, D. C.

October 1-2.

LEAGUE OF PACIFIC NORTHWEST MUNICIPALITIES.—Second Annual Conference, Rose City, Wash. Charles G. Haines, Secretary, Walla, Walla, Wash.

October 7-10.

AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS.—Twentieth Annual Meeting, Wilmington, Del.—A. Prescott Folwell, Secretary, 50 Union Square, New York City.

October 22-24.

PENNSYLVANIA WATER WORKS ASSOCIATION.—Annual Convention, Philadelphia, Pa. M. C. Hawley, chairman Executive Committee, 504 Park Building, Pittsburgh, Pa.

November 12-15.

NATIONAL MUNICIPAL LEAGUE.—Annual Convention, Toronto, Canada. Clinton Rogers Woodruff, Secretary, North American Building, Philadelphia.

December 9-12.

AMERICAN ROAD BUILDERS' ASSOCIATION.—Tenth Annual Convention, Philadelphia, Pa. E. L. Powers, Secretary, 150 Nassau street, New York City.

National Paving Brick Manufacturers Association.

The tenth annual meeting September 17 and 18 will be marked by a paving conference which will attract city engineers and other officials and paving contractors from all parts of the country.

At recent meetings of the brick committees of the American Society of Municipal Improvements and the American Society for Standardizing Paving Specifications, incidental to the discussion of matters which came before that committee, it was suggested that if at some time prior to the annual meeting at Wilmington, Delaware, an itinerary of study and investigation at the paving brick plants could be arranged for by the National Paving Brick Manufacturers' Association it would be both acceptable and desirable. Committees from these societies will therefore meet at the Statler Hotel, Cleveland, at 8:00 A. M., Monday, September 15, to spend that day and the Tuesday following visiting brick plants and to remain in the city as guests of the National Paving Brick Manufacturers' Association during the 17th and 18th, the days of the annual meeting.

Judging from the acceptances which have come from engineers and other city officials at least 150 officials together with 75 paving contractors will

be present while representatives of the various engineering, trade, automobile and civic publications, together with the paving brick men themselves will swell the total attendance to nearly 300.

The meeting will be exceedingly important in that it will bring together, for the first time, engineers from the leading cities of the country and almost the entire body of paving brick manufacturers. It will afford the engineers and paving brick manufacturers an excellent opportunity to discuss their problems on common ground.

The mornings of the 17th and 18th will be devoted to the business sessions of the Association. The reports which will be read by President Chas. J. Deckman, Secretary Will P. Blair, Treasurer C. C. Barr, and Assistant Secretary H. H. Macdonald, will show that the association has had the most successful year in its history. Since the last annual meeting of the association, held in Chicago last March, many new members have been added and there has not been a single instance of backsliding on the part of old members.

There will be no formal papers at the banquet to be held at the Statler Hotel on the evening of September 17, but full opportunity will be given to the visiting engineers to discuss what they have seen.

It was at the last annual meeting that the decision was reached to hold future conventions of the Association during a season of the year when brick road construction methods could be viewed in actual progress. Many engineers and contractors have written the Association that they are looking forward with much interest and pleasure to a personal inspection, for the first time, of the thousand miles of city streets and country roads of Cleveland and Cuyahoga County, of which they have read and heard.

About 80 motor cars will be required for the trip over the streets and roads. Every paving brick manufacturer who is the fortunate possessor of an automobile or a stable of automobiles has promised to drive his car to Cleveland for the big event. The itinerary for the inspection of Cleveland's city streets will include visits to brick pavements laid as long as 19 years ago which have not required the expenditure of a cent for maintenance, due to wear and tear, during that time.

The following state, county and city officials have offered the Association the fullest cooperation in the matter of viewing construction work: Chief Engineer Robert Hoffman, and Paving Engineer Joseph Bayne, of Cleveland; Chief Engineer Frank R. Lander and Road Engineer James M. McCleary, W. A. Stinchcomb, County Engineer Elect.

National Electric Light Association.

The fifth annual convention of the New England section is to be held at the Hotel Vermont in Burlington, Vt., on Sept. 17, 18 and 19. Papers on elec-

trical subjects of national interest will be presented by some of the best authorities in New England. An entertainment committee is arranging to make the three days' stay one of special enjoyment in a section unsurpassed by any other in the country.

Minnesota Municipal League.

The organization of the Minnesota Municipal League was accomplished at Minneapolis, Minn., on August 21, at a conference of mayors and other officials of nearly all the leading cities of the State. Later in the year the organization will hold its first convention.

Michigan League of Municipalities.

Municipal office holders and experts from leading Michigan and outside cities will speak at the fourteenth annual convention of the Michigan League of Municipalities to be held in Jackson, September 17 to 19.

Among the speakers are Mayor John Bailey of Battle Creek, whose address "The Battle Creek Plan," will tell of commission rule in that city. C. W. Giddings of St. Louis, president of the league, will respond to Mayor Bailey's address of welcome. Professor Aubrey Tealdi of the U. of M. will speak on "Civic Improvement in Smaller Michigan Cities." L. A. Boulay of Toledo talks on "Pavements and Road Building." The mayor of Grand Rapids' address is on "Sewage and Garbage Disposal." Mayor Marx of Detroit and market experts from the nation's capital will talk on the market question. It is expected that every city in Michigan will be represented at the meeting. Many interesting social and sight-seeing trips have been arranged.

League of Iowa Municipalities.

The sixteenth annual convention of the League of Iowa Municipalities will be held in Marshalltown, Ia., September 23, 24 and 25. The executive committee has just completed the program for the three days, which is as follows:

Tuesday, Sept. 23.

8 to 10 a. m.—Reception and registration of delegates; headquarters, mayor's office, in court house.

10 a. m.—Call to order. Place of meeting, east court room, second floor, court house.

Address of Welcome—I. S. Millard, mayor of Marshalltown.

Response and president's address—A. A. Smith, mayor Sioux City and president of League of Iowa Municipalities.

Report of secretary-treasurer—Frank G. Pierce, Marshalltown.

Report committee on legislation—Parley Sheldon, mayor of Ames.

Report committee on judicial opinions—Ben P. Poor, city attorney, Burlington.

Appointment of committees—Resolutions, question box, auditing.

Business session.

2 p. m.—Paper, "Sanitary Foods and the Menace to Public Health of Unsanitary Foods," Dr. L. E. Eslick, mayor of Rockwell City.

Discussion by delegates.

Paper, "Municipal Bond Issues in Iowa."—Francis H. French, attorney for George M. Bechtel & Co., Davenport.

Discussion by delegates.

Paper, "Fire Protection and Building Codes," Ole O. Roe, state fire marshal, Des Moines.

Discussion by delegates.

Paper, "Sewage Disposal," Hon. J. D. Glasgow, mayor of Washington.

Discussion by delegates.

Business session.

Roll call for reports.

8 p. m.—Meeting with state board of health.

Addresses by Dr. G. H. Sumner, secretary state board of health; Lafayette Higgins, civil and sanitary engineer, state board of health; Prof. C. N. Kinney, chemist, state board of health.

Discussion by delegates.

Business session.

Wednesday, Sept. 24.

9 to 12 a. m.—Department meetings: cities under general law and special charter, east court room, Mayor J. F. Cole, Oelwein, chairman; cities under commission government, office of Commissioner Lamb, Mayor J. R. Hanna, Des Moines, chairman; towns, mayor's office, Mayor F. E. Blackstone, Garner, chairman; attorneys, office of City Attorney F. E. Northrup, Hon. D. E. Stuart, city attorney, Council Bluffs, chairman; accounting officers, city clerk's office, George Gallarno, chief Clerk state municipal accounting department, Des Moines, chairman.

1 p. m.—Report committee on suit against executive council, B. P. Holst, Boone.

Report committee on street lighting—R. J. Mullins, superintendent water and light plant, Webster City.

Discussion by delegates.

Discussion public utility commissions: From standpoint of Senate bill—L. E. Crist, Osceola, chairman senate committee on public utilities; from standpoint of House bill—W. F. Stipe, Clarinda, chairman house committee on public utilities; from standpoint of municipalities—J. F. Ford, mayor, Fort Dodge.

Discussion by delegates.

Business session.

Roll call for reports.

4 p. m.—Automobile ride by Marshalltown Club.

6 p. m.—Luncheon at Marshalltown Club.

8 p. m.—Evening session at Marshalltown Club.

Paper, "Home Rule for Iowa Municipalities," A. C. Mueller, mayor of Davenport.

Discussion by delegates.

Paper, "Municipal Franchises," B. P. Holst, Boone.

Discussion by delegates.

Address "Suit Against Executive Council," H. H. Stipp, Des Moines.

Discussion by delegates.

Thursday, Sept. 25.

10 a. m.—Report committee on street paving, J. S. Tracy, Maquoketa.

Discussion by delegates.

Paper, "The Sanitary Way of Disposing of the City Garbage," C. M. Wyth, Cedar Falls.

Discussion by delegates.

Report committee on waterworks—B. F. Stedman, superintendent waterworks, Dubuque.

Discussion by delegates.

Business session.

Roll call for reports.

2 p. m.—Paper, "Sanitary Drainage of Sewers and a Sanitary Back Lot," O. C. Meredith, Newton.

Report of question box committee.

Reports of department meetings.

Unfinished business.

Election of officers.

Connecticut State Firemen's Convention.

With delegates present from all parts of the State, the two-day convention of the Connecticut State Firemen's Association opened at West Haven, August 26.

Reports of the officers showed that there is a membership of 447, consisting of 275 companies and 172 department members. Four companies were added during the year.

The following were elected officers for next year: President, James P. Toomey, New Britain; first vice-president, M. J. Dailey, Bridgeport; secretary, R. V. Magee, Watertown; treasurer, S. C. Snagg, Waterbury; chaplain, Rev. N. C. Carey, of New York.

At the annual meeting of the Fire Chiefs' Association, there was an attendance of about fifty of the chiefs and ex-chiefs of the State. The following officers were elected: President, Chief H. L. Stanton, Norwich; first vice president, Chief D. W. Harford, South Norwalk; second vice president, Chief D. L. Leonard, Willimantic; secretary, Chief Rufus Fancher, New Haven; treasurer, Chief Samuel C. Snagg, Waterbury.

American Association of Park Superintendents.

New ideas in landscape gardening were exchanged at the three days' convention of the American Association of Park Superintendents held in Denver, Colo., August 25 to 27. It is the fifteenth annual meeting of the organization. The men who are responsible for most of the beautiful park systems of the United States were in attendance. J. S. Macbeth, president of the Denver Park Board, welcomed the delegates. One of the principal features of the convention was an automobile trip through the chain of mountain parks recently established by the city of Denver.

H. H. Richards of Chicago was elected president. J. J. Levison of Brooklyn was re-elected secretary and treasurer. The vice presidents were elected as follows: G. Hennenhofer, Pueblo, Colo.; George W. Burke, Pittsburgh; Frank Brubeck, Terre Haute, Ind.; Fred C. Green, Providence, R. I.; W. S. Manning, Baltimore, and G. Champion, Winnipeg, Canada.

County Commissioners of Pennsylvania

The twenty-seventh annual convention of the County Commissioners of Pennsylvania opened in the court house of Williamsport, Pa., August 13, with an address of welcome by Hon. Harvey W. Whitehead, presiding judge of Lycoming County. The convention was formally opened by H. R. Fleming, chairman of the executive committee. He introduced Judge Whitehead, who made the address of welcome. The report of the executive committee, a response by J. W. Strawbridge, of York County; an address by W. C. Gilmore, Esq., and general discussion of timely topics completed the afternoon program. The evening session embraced a talk by Warden John Francis, on "Prison Management," and an address on the primary election law by J. Lee Plummer, solicitor of Blair County.

On the second and last day of the convention, Erie was selected as the place for holding the 1914 convention and the following officers were elected: President, H. R. Fleming, Lycoming County; first vice president, A. M. Liveright, of Clearfield County; second vice president, James Krewson, of Montgomery County; secretary, F. G. Attenberg, Crawford County; treasurer, George W. Allen, Delaware County.

Fire Chiefs of the Pacific Coast.

Seventy-five delegates, representing five States and three Canadian provinces, opened the twenty-first convention of fire chiefs at Tacoma, Wash., August 25. Chief Ely of Los Angeles, replied to the addresses of welcome, supplemented by Chief Davis of Victoria, and Chief Haley of San Jose, Cal. The delegates came from Washington, Oregon, California, Arizona, Idaho, Montana, British Columbia, Alberta and Saskatchewan.

Chief A. J. Ely of Los Angeles spoke at some length on the advantages of motor driven fire apparatus, laying particular stress on speed limits.

Chief F. L. Stetson of Seattle spoke of the efficiency of motor apparatus in hilly cities like Tacoma and Seattle. He said that such cities in purchasing motors should figure on sufficient power to overcome the grades.

Chief Thomas Davis of Victoria, B. C., offered to show the chiefs his figures proving the cheapness of maintaining motor apparatus. He said he was discarding horses as fast as possible, and that not another one would be purchased for the Victoria fire department.

Chief Foster of Astoria started things when he demanded what chiefs had discarded horses when motors were put in. He made the chiefs think he was against motors, but afterwards explained that he knew the advantages of motors as well as any of them and that he had three pieces of motor apparatus in his department, but that every time a piece of motor apparatus was purchased some of the taxpayers wanted to know who was getting the graft. It was brought out in this discussion that

few horses are actually being discarded, but on account of the growing of the young Pacific Coast, the horse-drawn apparatus is being placed in the outlying districts.

Assistant Chief Short of Oakland told of the situation in his city, where a third of the men are full pay men and the rest call men. He gave figures showing how much quicker the full pay men are to get to fires and put them out as compared with the call men. He said one of his motor pumps there would pass seven steam fire engines, horse drawn, in five blocks.

Chief Foster of Astoria said that Oregon underwriters do not give credit for motor apparatus. Chiefs Otterson and Haley of Napa and San Jose said that in California the situation is quite the opposite.

Kenneth J. Kerr of the Railway & Marine News, Seattle, gave an interesting talk on the development of the Pacific Coast fire departments from California to Alaska. Thomas E. Heath, chief at Saskatoon, Saskatchewan, was unable to attend, but sent a paper on "Time and Its Importance in Fire Service," which was read by Secretary Bringham.

In the afternoon Commissioner Mills headed an automobile party that contained the wives of a number of the chiefs. They were driven to Point Defiance and around the city while the men were in convention.

The second day the chiefs and guests visited Mount Tacoma and the national park.

American Society of Municipal Improvements.

The preliminary program of the twentieth annual convention, to be held at Wilmington, Del., October 7 to 10, is as follows: The papers mentioned, which have already been received, and others which may be received in time, will be printed in advance of the convention and distributed to the members.

Monday, October 6.—Preliminary meetings of committees on Standard Specifications and Standard Forms, and their several sub-committees, at headquarters, Hotel du Pont. All who are interested in sewerage and paving specifications, or in the subject of standard units for recording municipal work are urgently invited to attend these meetings. 7.30 p. m., meeting of Finance Committee. 8 p. m., meeting of Executive Committee.

Tuesday.—9 a. m. Meeting of Executive Committee; also of committees on Standard Specifications and Standard Forms. 11 a. m. Opening of convention, addresses, reading of reports of officials, etc.

2 p. m. Reports and papers on Park Development and Maintenance; Garbage Disposal and Street Cleaning; Report of Committee on Sewerage and Sanitation, F. A. Reimer, chairman. "Separate and Combined Sewers in Their Relation to the Disposal of Sewage," by John H. Gregory. "Springfield Sewage Disposal Plant and Its Departure from Common Practice," by Alexander Potter. "What Obligation,

if any, is the State Under to a Municipality Where the State Board of Health Has Required the Abandonment of the Disposal of Sewage Into Running Streams," by Chester G. Wigley, Engineer of the State Board of Health of New Jersey. Election of committees on Nominations and Place of Meeting.

8 p. m. Report of Committee on Water Works. Report of Committee on Street Lighting. "Some Observations on Minimum Illumination for Street Lighting," by J. E. Putnam.

Wednesday. 9 a. m. "Proposed Standard Specifications for Paving Brick," by Prof. Edward Orton. Report of Committee on Standard Specifications; discussion of specifications for Sewerage, and Stone Block, Macadam and Gravel, Wood Block, Brick, Bituminous, Asphalt and Concrete pavements.

11 a. m. Election of Officers and Selection of Place of Meeting.

Afternoon, luncheon and boat trip tendered by the city of Wilmington.

8 p. m. Continuation of discussion of Standard Specifications. Report of Committee on Standard Forms; discussion of standard forms for street paving; sidewalks and curbs, street cleaning and refuse disposal, sewer construction and maintenance, street lighting and uniform bidding blanks.

Thursday. 9 a. m. Query session. Discussion of subjects not formally introduced by papers. At this session members are invited to ask their fellow members for information on any point coming under the general head of "municipal improvements."

Afternoon, automobile trip to city departments and points of interest.

8 p. m. Reports of Committees on Municipal Legislation and Finance, Fire Prevention, Traffic on Streets, and Street Paving. "Control of Sidewalk Construction and Maintenance," by A. P. Folwell.

Friday. 9 a. m. Additional papers and postponed business.

Afternoon, informal visits by members to city departments.

International Association of Fire Engineers.

The entertainment features of the convention occupied practically all of Thursday, Friday and Saturday, September 4, 5 and 6. At 11 a. m., Thursday, the chiefs and their families sailed by the steamer Grand Republic to Conev Island, which they reached about 2.30. On the way down the harbor six fire boats of New York City gave an exhibition such as could not be shown by any other city in the country—probably in the world—of the amount of water which can be thrown by them. The rest of the day, until 11 p. m., was spent visiting places of amusement and eating a shore dinner at Brighton Beach, when the party returned to New York by the same steamer.

On Friday, 7,000 firemen, including more than 1,500 from the New York fire department, formed in parade at 2 p. m., and marched to Riverside Drive and 100th street, where the Firemen's

Memorial, suggested by the late Bishop Potter and erected from subscriptions collected by the New York Globe, was unveiled. Following the unveiling ceremonies, they passed in review before a grand stand where were assembled more than 1,000 fire chiefs. The New York department was represented by about 40 pieces of apparatus, both horse-drawn and motor. Old style hose carts and hand pumps were drawn by volunteer firemen dressed in red shirts, one piece of apparatus being a hand pump on four wheels built in 1725. The memorial was presented by Jesse Isador Straus, son of the late Isador Straus, and was accepted by Borough President McAneny in behalf of New York City. The monument is in the form of a votive tablet 25 feet high and 8 feet deep, resting on a high foundation, flanked by two marble groups representing Beauty and Sacrifice. The monument is approached from the drive by a broad flight of steps leading up to a plaza, on which two flights of steps lead on either side of the monument. The total cost of the monument was \$90,500. On the side of the monument facing the street is the inscription:

To the Men of the Fire Department of the City of New York. Who Died at the Call of Duty. Soldiers in a War That Never Ends. This Monument Is Dedicated by the People of a Grateful City.

A large mask spouts a stream of water into a fountain basin from the other face of the tablet.

In the evening the entertainment consisted of a visit to the Jardin de Danse.

On Saturday afternoon, the chiefs attended a baseball game between the New York Fire Department and the New York Police Department, and in the evening were entertained at a banquet at the Hotel Astor.

On Wednesday there was a test of automobile pumping engines, which lasted continuously from 6.30 a. m. to 6.30 p. m., during which the engines were to pump continuously from the Hudson River at West 54th street, discharging into the same river. Eleven engines started in the test, consisting of a 1,000-gallon Seagrave, a 700-gallon Ahrens-Fox, one 700-gallon and one 1,400-gallon American-La France, a 600-gallon Luitweiler, a 600-gallon Knox, one 600 and one 800-gallon Nott, a 750-gallon Robinson Jumbo and a 900-gallon Robinson Monarch, and a 700-gallon Watrous. Seven of the eleven lasted to the end of the test. Only one of these went through without any stoppage or unfavorable conditions, although several of the others had nothing worse recorded against them than "Slight noise in engine, does not appear serious; no cause was discovered on investigation after test." Or, "Pump bearings cooled by application of water at 4.15." The full log of the test will be given next week, as space cannot be found for it in this issue. An idea of how spectacular the test was may be imagined when it is stated that nearly 9,000 gallons per minute were pumped at one time by the eleven engines.

MUNICIPAL APPLIANCES

Seven-Rib Hy-Rib.

Seven-Rib Hy-Rib is a new product placed on the market by the Trussed Concrete Steel Company. It is an improvement over Four-Rib Hy-Rib which it replaces, inasmuch as sheets are 24 inches wide, over twice as wide and the ribs are $\frac{1}{8}$ inch deeper. By the use of this new material labor is saved as well as time and expense. A wider spacing of supports is permissible owing to the increased stiffness. The sheets are 24 inches wide, between centers of outside ribs. The ribs are $\frac{15}{16}$ inch high, 4-inch centers. Gauge Nos. 22, 24, 26 or 28. The standard lengths are 6, 8, 10 and 12 feet.

The cross-sectional areas of metal in Seven-Rib Hy-Rib per foot of width, are as follows: 28 gauge, .137 sq. in.; 26 gauge, .164 sq. in.; 24 gauge, .219 sq. in.; 22 gauge, .273 sq. in.

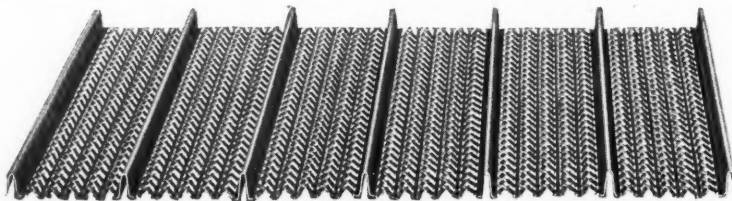
Safe loads for concrete slabs reinforced with Seven-Rib Hy-Rib can be computed by deducting 20 per cent. from the loads given for Four-Rib Hy-Rib in the upper table, page 30, Tenth Edition, Hy-Rib Handbook. The maximum spans for Seven-Rib Hy-Rib as centering are 8 per cent. greater than the dimensions given for Four-Rib Hy-Rib in the lower table, page 30, Tenth Edition, Hy-Rib Handbook; i. e., add one inch for each foot of span.

Tables for walls, partitions, and suspended ceilings may be used as published in the Hy-Rib Handbook, by merely substituting the Seven-Rib Hy-Rib for the Four-Rib Hy-Rib, using the same gauge of metal. Seven-Rib Hy-Rib is supplied by the shops bent to same curves as Four-Rib Hy-Rib.

A Commercial Motor Tractor.

The problem of motorizing a commercial service without scrapping equipment is solved by the tractor invented and manufactured by J. M. Meyers, Broad and Wallace Streets, Philadelphia. The apparatus is the first two-wheeled gasoline unit which can be successfully placed under any type of wagon or fire apparatus and it has the distinctive, valuable feature of having an easily detachable third wheel by means

of which it can be driven from place to place alone and attached to a load anywhere. The tractor is a compact unit of two rubber-tired wheels, revolving on a solid axle, each wheel propelled by a chain from a short transmission jack shaft, which in turn is driven by a compact 4-cylinder or 2-cylinder motor. The entire unit turns by means of a circular rack and pinion upon a fifth wheel. The outfit is light compared with the ordinary truck of the same capacity, weighing 1,200 lbs.—making, with a wagon for a three-ton load, a total weight of only 3,000 lbs. compared with the 7,000 lbs. of an ordinary truck of similar capacity. It is especially useful for motor fire apparatus, taking up a minimum space because it has no protruding mechanisms, while its ready adaptability makes it invaluable for contractors engaged in heavy hauling. The tractors are built in capacities of 1, 2 and 3 tons and sell at prices below the ordinary trucks of same capacities, or at \$1,000, \$1,250 and \$1,500 respectively.



SHEET OF SEVEN-RIB HY-RIB.

INDUSTRIAL NEWS

New Plant of the Universal Portland Cement Co.—Substantial progress is being made on the new plant of the Universal Portland Cement Co. at New Duluth, Minn. Frost conditions at New Duluth require foundations at least 9 feet deep involving very large quantities of material. Concrete is being mixed in a central mixing plant and hauled to the points where work is in progress, in two car trains, each car holding five one-yard buckets. The buckets are picked up by a locomotive crane and dumped into the forms. One hundred and thirty men are now at work on the plant and this number will be increased as soon as the structures

are started. The stock room and machine shop are to be completed first and will be used to house the materials and equipment required for the building of other parts of the plant. Their foundations are complete and the walls are about to be started. The operation is in charge of the following officials of the Universal Portland Cement Co.: Leonard Wesson, assistant to president; A. G. Carlson, mechanical engineer, and J. H. Barbazette, superintendent in charge of construction. This plant will have a capacity of 1,400,000 barrels of cement per year, giving a total output of 13,400,000 barrels.

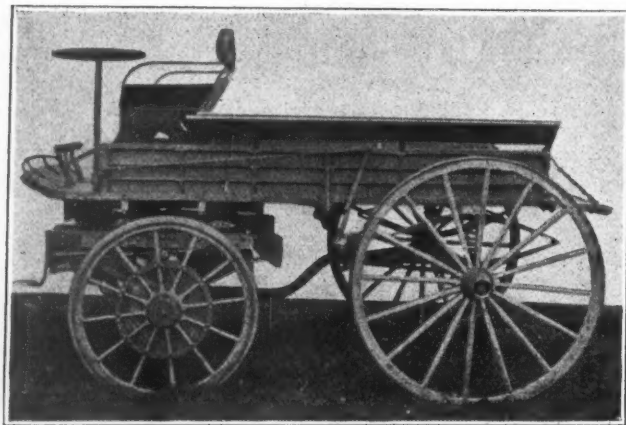
Lead Lined Pipe.—The Lead Lined Iron Pipe Company, Wakefield, Mass., have issued a pamphlet which calls attention to a few of the prominent uses of lead and tin lined pipes. A partial list of the works using this pipe, with the quantities used is given. The lead or tin is soldered on the iron pipe and cannot it is stated be separated by bending, rough usage or hot water.

Tractors.—The Martin Tractor Company, of Springfield, Mass., with a capital stock of \$350,000 is a new con-

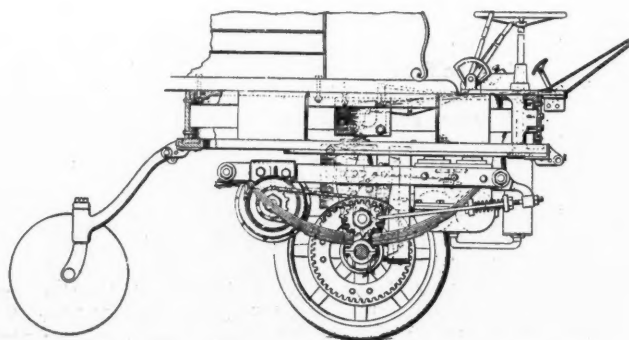
cern in the commercial motor vehicle field. Harry G. Fisk is President; C. H. Martin, Vice President and General Manager; E. O. Sutton, Treasurer; C. E. Beckwith, Secretary. S. S. Evland of Philadelphia is one of the largest stockholders. The new company has exclusive rights except for the Knox Automobile Co., under C. H. Martin's patents with the privilege of issuing sub-license to other manufacturers.

Allis-Chalmers Improvements.—The Allis-Chalmers Mfg. Company, Milwaukee, Wis., will, it is reported, enlarge their Milwaukee works. The improvements will mean the addition of 1,000 men to their payroll.

(Continued on page 382.)



THE FIRST MEYERS TRACTOR.



SECTION OF MEYERS TRACTOR, SHOWING ATTACHMENT TO BE USED WHEN MOVING TRACTOR FROM ONE WAGON TO ANOTHER.

WEEKLY CONTRACT NEWS

ADVANCED INFORMATION BIDS ASKED FOR

CONTRACTS AWARDED ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
Ill., Urbana	.....noon	Sept. 13..	42,000 cu. yds. light grading.....	J. M. White, Supt. Architecture
O., Cleveland	.....11 a.m.	Sept. 13..	Grading	J. F. Goldenbogen, Clk.
Ind., Terre Haute	.....11 a.m.	Sept. 13..	Grading, draining and graveling.....	N. G. Wallace, Co. Aud.
Ill., Ashmore	.....2 p.m.	Sept. 13..	Highway construction.....	Hwy. Comrs.
Neb., Norfolk	.....5 p.m.	Sept. 15..	Grading, curbing and paving.....	P. J. Stafford, City Clk.
Cal., Los Angeles	.....2 p.m.	Sept. 15..	Curbs, gutters and sidewalks.....	H. J. Lefande, Clk. Co. Superv.
Kan., Independence	.....Sept. 15..	Sept. 15..	Brick paving	G. H. Kriehagen, City Clk.
Minn., Minneapolis	.....11 a.m.	Sept. 15..	Grading and graveling	M. G. Chatlin, Co. Aud.
Ind., Huntingburg	.....7.30 p.m.	Sept. 15..	Concrete sidewalks, curb and gutter.....	L. K. Bamberger, City Clk.
N. Y., Middletown	.....Sept. 15..	Sept. 15..	Road, one mile	C. H. Smith, Supt.
Ind., Shelbyville	.....10 a.m.	Sept. 15..	Gravel road on county line.....	F. W. Fagel, Co. Aud.
Ind., South Bend	.....Sept. 15..	Sept. 15..	Paving highway	C. Sedgwick, Co. Auditor.
O., Toronto	.....noon	Sept. 15..	Turnpike	S. Wilkinson, Ch. Comrs.
Mo., Cape Girardeau	.....Sept. 15..	Sept. 15..	Concrete paving, 14,000 yds.....	F. A. Kage, Mayor.
N. J., Hackensack	.....11.30 a.m.	Sept. 15..	Road improvements	M. J. Ford, Ch. Rd. Comm.
O., Steubenville	.....noon	Sept. 15..	Four miles of road	Road Comrs.
N. D., McCluskey	.....2 p.m.	Sept. 15..	Grading a slough	A. Schlenker, Co. Aud.
N. J., Haddonfield	.....3 p.m.	Sept. 15..	Macadam streets and concrete gutters.....	A. Clymer, Boro. Clk.
Que., Centerville	.....Sept. 15..	Sept. 15..	4½ miles of tar macadam.....	F. L. Wanklin, Mayor.
N. J., Hohokus	.....Sept. 15..	Sept. 15..	Improving	M. J. Ford, Ch. Co. Rd. Comm.
Md., Rockville	.....Sept. 16..	Sept. 16..	Water bound macadam	B. E. Clark, Clk. Bd. Co. Com.
Ala., Stevens	.....Sept. 16..	Sept. 16..	Grading, draining and macadamizing	W. S. Kellar, St. Hwy. Engr.
N. J., Rahway	.....8 p.m.	Sept. 16..	Sanitary sewers	F. Marsh, City Engr.
Canada, Cayuga	.....noon	Sept. 16..	Macadam roads, 26½ miles.	T. A. Schneider, Clk.
Cal., Pasadena	.....9 p.m.	Sept. 16..	Macadam pavement, cement curbs and gutters.....	J. Dyer, City Clk.
Pa., Harrisburg	.....10 a.m.	Sept. 17..	State highway	E. M. Bigelow, State Hwy. Comr.
Pa., Williamsport	.....Sept. 17..	Sept. 17..	124,624 ft. improved highways.....	State Hy. Dept.
O., Findlay	.....noon	Sept. 17..	Water bound macadam pipe.....	L. Brickman, Ch. Co. Com.
Utah, Ogden	.....10 a.m.	Sept. 17..	Concrete curbs and gutters.....	H. J. Craven, City Engr.
Md., Baltimore	.....Sept. 17..	Sept. 17..	1.7 miles macadam or concrete road.....	City Register.
Pa., Harrisburg	.....Sept. 17..	Sept. 17..	Asphaltic bituminous macadam.....	E. M. Bigelow, St. Hwy. Comr.
Ill., Springfield	.....10 a.m.	Sept. 18..	Eighteen inch crock pipe sewer.....	R. H. Hamilton, Pres. B. L. I.
N. J., Atlantic City	.....Sept. 18..	Sept. 18..	Paving; probable cost \$250,000.	J. B. Thompson, Dir. St. &
O., Fostoria	.....Sept. 18..	Sept. 18..	Brick or sheet asphalt, 8 blocks.....	C. A. Latshaw, City Engr.
Tenn., Johnson City	.....7.30 p.m.	Sept. 18..	90 yds. street car paving, 17,052 yds. paving and grading, 7,634 ft. curb and gutter, 3,516 ft. of 6-inch sewer connection, 3,075 ft. 8-inch vitrified sewer, 6 manholes, 1 catch basin, 205 ft. 12-inch sewer.....	P. F. McDonald, City Comr.
Minn., Detroit	.....10.30 a.m.	Sept. 18..	State highway	W. J. Morrow, Co. Aud.
O., Canton	.....noon	Sept. 18..	Paving, curbing, draining and sewers.....	R. F. Harbert, Dir. Pub. Serv.
Ky., Louisville	.....Sept. 18..	Sept. 18..	Asphalt paving	Bd. Pub. Wks.
O., Cincinnati	.....noon	Sept. 19..	Improving road	A. Reinhardt, Clk.
Wis., Kenosha	.....2 p.m.	Sept. 19..	Grading, curbing and reinforced pavement.....	D. O. Head, St. Assn. Com.
Ind., Lockport	.....2 p.m.	Sept. 19..	Joint storm and sanitary sewer system.....	C. H. Darneal, City Clk.
Wash., Olympia	.....Sept. 20..	Sept. 20..	Paving	W. J. Roberts, Ch. St. Hwy. C.
Ill., Murphysboro	.....Sept. 20..	Sept. 20..	Vitrified brick on concrete base	R. O. Deason, City Clk.
N. J., Newark	.....3 p.m.	Sept. 22..	Granite block paving.....	F. A. Reimer, Co. Engr.
O., Fostoria	.....noon	Sept. 22..	Sewage disposal plant.....	R. J. Barrett, Clk.
S. D., Gettysburg	.....2 p.m.	Sept. 23..	County auto and wagon road.....	E. B. Toomey, Co. Aud.
N. Y., Albany	.....1 a.m.	Sept. 26..	New highway construction.....	J. M. Carlisle, Comr. H'ways.
Wis., Racine	.....10 a.m.	Sept. 27..	Paving	P. H. Connolly, City Eng.
Ill., Marlon	.....Oct. 1..	Oct. 1..	Asphaltic macadam and brick.....	G. C. Campbell, Clk.
Ill., Frankfort	.....Oct. 10..	Oct. 10..	Eight miles granitoid sidewalks.....	Leming, Clk.
Ill., Hurst	.....Oct. 15..	Oct. 15..	Six miles granitoid sidewalks.....	V. H. Burkhardt, Pres. Bd. Local Impts.
SEWERAGE				
O., Delaware	.....Sept. 14..	Sept. 14..	Vitrified pipe, 600 ft. 8-inch.....	G. S. Erwin, City Engr.
N. C., Raleigh	.....Sept. 15..	Sept. 15..	Sewer and water mains.....	Riddick & Mann, Engrs.
Pa., State College	.....8 p.m.	Sept. 15..	6,000 ft. of 10-in. and 6-in. sewers.....	J. T. McCormick, Pres. Council
Pa., Carbondale	.....6 p.m.	Sept. 15..	Sewers	H. G. Likeley, City Engr.
Ia., Waterloo	.....Sept. 15..	Sept. 15..	Sewers	City Council.
Ind., Rockport	.....Sept. 15..	Sept. 15..	Joint storm and sanitary system.....	C. E. Darneal, City Clk.
Neb., Norfolk	.....5 p.m.	Sept. 15..	Sanitary sewers	City Clerk.
Cal., Pasadena	.....9 a.m.	Sept. 16..	2,400 ft. sewer	H. Dyer, City Clerk.
N. J., Rahway	.....Sept. 16..	Sept. 16..	Sanitary sewers	F. Marsh, City Engr.
R. I., Woonsocket	.....Sept. 16..	Sept. 16..	Surface water drain	F. H. Mills, City Engr.
Ill., Jerseyville	.....1 p.m.	Sept. 17..	Ditch and levee work.....	S. M. Faddish, Comr. Drainage
O., Canton	.....noon	Sept. 18..	Sewers	R. F. Harbert, Dir. Pub. Serv.
Ill., Springfield	.....10 a.m.	Sept. 18..	18-inch crock pipe sewer.....	F. H. Hamilton, Pres. Bd. Local Imp.
Ill., Oquawka	.....Sept. 25..	Sept. 25..	Steam driven drainage pumping plant.....	Co. Clk.
N. J., Newark	.....Nov. 18..	Nov. 18..	Sewers	J. S. Gibson, Clk.
WATER SUPPLY				
Mass., Boston	.....11 a.m.	Sept. 13..	Fuel oil storage tank.....	H. R. Stanford, Chief, Wash't'n
Fla., Jacksonville	.....Sept. 15..	Sept. 15..	Steam pump	C. L. Carroll, Supt.
Ill., Watertown	.....Sept. 15..	Sept. 15..	Reinforced concrete reservoir, pumping equipment and water mains	F. D. Whipp, Fiscal Superv.
N. C., Raleigh	.....noon	Sept. 15..	10,000 ft. sewer.....	J. H. Pou.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Fla., Jacksonville	10 a.m., Sept. 15	Galvanized iron and lead pipes, pig lead	W. M. Bostwick, Jr. Ch.	
Md., Silver Spring	Sept. 15	Pumping engine	Silver Spring Water Co.	
N. C., Bloomsbury	Sept. 15	Water pipe, 15,000 ft.; sewer, 10,000 ft.	J. H. Pou.	
la., Schaller	8 p.m., Sept. 15	Settling tank and filter bed	H. N. Snell, Town Clerk.	
Minn., Duluth	3 p.m., Sept. 15	Gate valves	C. S. Palmer, Clerk.	
Kan., Scott	Sept. 15	Wells, reservoir, windmills and pumps	B. P. Walker, Secy. Bd. of Irr.	
Cal., Calexico	5 p.m., Sept. 16	800-gallon steel tank	S. A. Thing.	
Cal., Los Angeles	3.15 p.m., Sept. 16	Brass fittings and unions	J. B. Vroman, Clerk.	
Neb., Humboldt	Sept. 16	Three miles of six-inch water mains and reservoir	W. G. Lydick, City Clk.	
Ga., Cordele	Sept. 18	Tower, tank, pumping engine, boilers and equipment	G. S. Harris, City Clk.	
O., Cleveland	noon, Sept. 17	Compressed air for storage battery locomotive and charging plant for water department	W. J. Springborn, Dir. Pub. Serv.	
N. Y., Booneville	Sept. 18	Concrete dam	E. E. Congdon, Pres. Bd. W. C.	
Pa., Allentown	10.30 a.m., Sept. 19	Plumbing and water supply in hospital	H. C. Weinert, Clk.	
Ill., Assumption	Sept. 19	Water main, 16,500 ft. 6-inch	R. F. Johnson, Secy.	
Ky., Louisville	Sept. 23	Filter	C. F. Granger, Pres. Bd. W. W.	
Miss., Jackson	Sept. 24	Two pumping stations and mechanical filtration plant	J. J. Monahan, City Clk.	
Kan., Kanopolis	10 a.m., Oct. 6	Complete water works	City Clk.	
Tex., Longview	Oct. 8	Mechanical filtration plant and 3½-mile main	G. A. Bodenheimer, Mayor.	
LIGHTING AND POWER				
Mass., Westboro	Sept. 13	Radial brick chimney for power plant	R. D. Kimball, Engr.	
O., Barberton	Sept. 15	Condensers and distribution system	City Engr.	
Fla., Jacksonville	10 a.m., Sept. 15	Recording watt meters, 1,000	F. N. Ellis, Pur. Agent.	
Ind., Ft. Wayne	3 p.m., Sept. 15	Ornamental lamp post	H. W. Becker, City Clk.	
O., Akron	noon, Sept. 16	Two hydraulic turbines and generators, 250 & 75 K. V. A.	R. M. Pillmore, Dir.	
Pa., Warren	Sept. 16	Tower house at State Hospital	A. L. Bell, Ch. Power House C.	
O., Cleveland	noon, Sept. 18	Luminous arc lamps and equipment	W. J. Springborn, Dir. Pub. Serv.	
Pa., Wescosville	Sept. 19	Extending electric light system in hospital	H. C. Weiner, Clk.	
Man., Winnipeg	Sept. 20	Transmission line	M. Peterson, Sec. Bd. Control.	
N. J., Elizabeth	2.30 p.m., Sept. 22	Power plant at Tuberculosis Farm	J. M. Cady, Dir.	
N. Y., Binghamton	Sept. 22	Electric lighting system, State Hospital	St. Hos. Comm.	
Sask., Regina	Oct. 1	Coal bunkers, ash hoppers, coal and ash conveyors and crushers	City Comrs.	
Kan., Kanopolis	10 a.m., Oct. 6	Alternating current light plant equipment, either steam or oil driven	City Clk.	
FIRE EQUIPMENT				
O., Martins Ferry	Sept. 13	Motor triple combination wagon	T. J. Craig, Dir. Pub. Safety.	
Pa., West Chester	11 a.m., Sept. 15	Masonry bridge	J. Parker, Clk.	
N. J., Westfield	8 p.m., Sept. 15	Concrete culverts	C. Clark, Town Clk.	
Kan., Meade	noon, Sept. 18	Five reinforced bridges	County Clerk.	
O., Newark	10 a.m., Sept. 18	Concrete sub-structure	C. L. Riley, Co. Auditor.	
O., Green Camp	10 a.m., Sept. 18	Abutments and wind walls	V. P. Garfield, City Clk.	
Fla., Key West	10 a.m., Sept. 19	Gasoline fire engine	Lt.-Col. M. G. Zalinski.	
Pa., Catasauqua	11.30 a.m., Sept. 19	Repairing bridge	H. C. Weinert, Clk.	
N. J., Anglesea	Oct. 7	Motor pumping engine	G. A. Redding, Boro. Clk.	
BRIDGES				
O., Lima	Sept. 13	Approaches for bridge	Bd. Co. Comrs.	
Kan., Lawrence	noon, Sept. 13	Reinforced concrete arch culvert	H. Broeker, Clk.	
Me., Lisbon	Sept. 13	Concrete arch bridge	Sanders Constr. Co., Engrs.	
Pa., Bechtelsville	Sept. 15	Reinforced concrete slab bridge	D. K. Hoch, Co. Controller.	
O., Portsmouth	Sept. 15	Reinforced concrete piling substructure	T. C. Patterson, Co. Aud.	
Pa., Carlisle	11 a.m., Sept. 18	Reinforced concrete girder bridge	Bd. Co. Comrs.	
Wash., Prosser	Sept. 18	Steel span and concrete abutments	L. L. Lyon, Co. Aud.	
O., Tiffin	Sept. 20	Concrete bridge	J. H. Lennartz, Co. Aud.	
O., Youngstown	11 a.m., Sept. 24	Concrete abutments	I. M. Hogg, Co. Aud.	
N. J., Belleville	3 p.m., Sept. 28	Bridge	F. A. Reimer, Co. Engr.	
MISCELLANEOUS				
Texas, Dallas	Sept. 13	Jail	Co. Comrs.	
Que., Nicolet	Sept. 15	Jetty	R. C. Desrochers, Secy. Dept. Pub. Wks.	
Ind., Mishawaka	Sept. 15	Combination auto patrol and ambulance	City Clk.	
N. J., Perth Amboy	8.30 p.m., Sept. 15	Scale house and 15 tons scale	W. La Roe, City Clk.	
O., Dayton	noon, Sept. 15	Riprap and levee repairs	C. J. Gross, Secy. Pub.	
Tex., Huntsville	noon, Sept. 15	Lubrication oils, gasoline and kerosene for state prison	Bd. of Prison Comrs.	
Kv., Pikesville	Sept. 16	Jail and sheriff's residence	H. E. Ratcliff, Co. Comrs.	
Minn., International Falls	Sept. 17	165,493 cu. yds. dirt excavation of ditch	L. H. Slocum, Co. Aud.	
N. Y., Schenectady	2.30 p.m., Sept. 17	Buildings for garbage reduction plant; also conveyor	F. E. Johnson, Sec.	
Ind., Danville	Sept. 19	Heating, plumbing and wiring court house	L. W. Borders, Co. Aud.	
Ill., Chicago	2 p.m., Sept. 20	Dredging levee and ditch work	City Engr.	
Ill., Beardstown	Sept. 20	Improving levees and bluff ditches	G. L. Shaw, Secy.	
Minn., Crookston	Sept. 23	Constrn. ditch	H. K. Welte, Co. Aud.	
La., Shreveport	Oct. 1	Levee excavation	Levee Comrs	

STREETS AND ROADS

Birmingham, Ala.—Ordinances have been passed for improvement of various streets.

Tucson, Ariz.—Board of Supervisors has decided to spend considerable sum of money in repairing road leading from Tucson to Mammoth in Pinal County.

Los Angeles, Cal.—A meeting of citizens will be held at which project for 120-ft. boulevard across town from East Hollywood to Boyle Heights will be discussed. Meeting also will consider construction of two new tunnels at First and Second Sts., which have been authorized by Council.

Oakland, Cal.—First steps toward paving of extension of Washington st. from 14th to 15th sts. have been taken by City Council.

Pasadena, Cal.—Various street improvements have been authorized.

Pasadena, Cal.—Widening of Broadway from Holly to Walnut is being considered.

Pomona, Cal.—Election will be held on Sept. 30 for voting on increasing bonded debt of \$75,000 for construction of street work on various streets.

Sacramento, Cal.—Bids for work expected to aggregate between \$150,000 and \$200,000 are to be asked by California Highway Commission. Bids to be asked probably will be for work in Orange, San Benito and Monterey Counties.

San Bernardino, Cal.—The Board of Supervisors has asked for \$17,000 to be used in widening the Arrowhead road to crest of range.

Boulder, Colo.—All bids submitted to Board of County Commissioners for relaying of sidewalk on north and east sides of court house have been rejected. The bids averaged about \$450 each, or \$100 more than the commissioners be-

lieved work was worth. New bids will be called for.

Colorado Springs, Colo.—Organization to boost construction of Pike's Peak highway has been launched.

Manchester, Conn.—Board of Selectmen have decided to lay permanent walks on Main, Miner and Woodbridge Sts. Contract has been awarded to F. A. James Engineering Co.

Washington, D. C.—Improvement of Pennsylvania Ave., from 14th St. south-east to west end of Pennsylvania Ave. bridge, is desired by East Washington Citizens' Association, which has petitioned District Commissioners that item for this purpose be included in next estimates. Association has submitted to district heads list of street improvements desired for that section. Included in number are Potomac Ave., from 8th to 13th, 13th from Pennsylvania Ave. to Potomac Ave., and I St. and 17th St., from Pennsylvania Ave. to E St.

Pensacola, Fla.—Block of good road bonds amounting to \$100,000 for Jackson County has been sold.

Lake City, Fla.—About 3,500 sq. yds. cement sidewalk paving will be constructed. Address City Clk.

Havana, Ill.—The Havana City Council and Board of Local Improvement will hold another public meeting for further consideration of paving proposition.

Silvis, Ill.—Property owners will petition City Council to improve Ninth St.

Baltimore, Ind.—Opening of 25th st. has been authorized. The new street will be 4,000 feet in length and 100 feet wide. Starting at 25th st. and Greenmount ave., it will connect with Hartford road at a point 300 feet below tracks of Baltimore & Ohio R. R.

Baltimore, Ind.—Acting in behalf of residents of Linden ave., between North ave. and Whitelock st., City Councilman Samuel L. West, of 13th Ward, has asked Mayor Preston to order paving of that street between points named.

Clinton, Ia.—Resolution has been adopted ordering City Clerk to advertise for bids for construction of permanent concrete walks.

Clinton, Ia.—Resolution has been adopted ordering construction of permanent cement sidewalks.

Clinton, Ia.—Construction work will begin immediately on 15 new permanent bridges in Clinton county. Following is statement of proposed new bridges, their locations, successful bidders, and contract prices: No. 67, Elk River Township, John Anderson & Sons, Maquoketa, \$1,468.85; No. 74, Center, John R. Kane, \$1,020.60; No. 83, Welton, John R. Kane, \$3,520.40; No. 68, Elk River, Marsh Engineering Co., Des Moines, \$1,350; No. 69, Elk River, Marsh Engineering Co., \$790; No. 72, Hampshire, Marsh Engineering Co., \$588; No. 73, Hampshire, Marsh Engineering Co., \$878; No. 79, Watford, Marsh Engineering Co., \$1,599; No. 79, Watford, Marsh Engineering Co., \$1,024; No. 87, Marsh Engineering Co., \$5,950; No. 80, Clarke Construction Co., \$494.53; No. 81, Clarke Construction Co., \$1,245.33; No. 82, Clarke Construction Co., \$934.82; No. 84, Clarke Construction Co., \$837.90; No. 86, Clarke Construction Co., \$922.46.

Council Bluffs, Ia.—Improvement of various streets has been authorized.

Waterloo, Ia.—Paving of Fourth St. between Washington and Wellington Sts. will be petitioned for.

Hutchinson, Kan.—City Engineer has recommended that streets in College Hill addition be narrowed from 80 to 60 ft., in conformity with petition from property owners there.

Ottawa, Kan.—Ordinance has been passed authorizing improvement of Second St. A. H. Slater is Mayor.

Topeka, Kan.—Matter of paving between tracks of Topeka Railway Company on West Sixth Ave., between Kansas Ave. and Harrison St., where new pavement is being laid, is being discussed.

Bangor, Me.—City Council has passed order for extension of Lafayette St.

Baltimore, Md.—It has been decided to repave Cathedral and Liberty sts.

Baltimore, Md.—According to plans made public by Chairman Compton of Paving Commission, work of laying improved paving on following streets will begin Oct. 14: Stockholm St., from Sharp to Leadenhall; Lanvale, Park Ave. to Mount Royal Ave.; Laurens, Linden Ave. to Bolton; Trenton, Charles to Maryland Ave.; Morton alley, Adams alley to Lafayette Ave.

Plymouth, Mass.—Board of County Commissioners has passed decree for widening and straightening of Mill St., Marion, from Spring St. to its junction with Nye St., distance of about 6,000 ft.

Worcester, Mass.—Specifications for construction of wood block paving are being prepared. Estimated cost, \$20,000.

Duluth, Minn.—The Getchell road will be extended from its present intersection with Morris Thomas highway to Hermantown road as soon as funds can be provided by county.

Duluth, Minn.—Ordinance has been adopted to make additional appropriation from general fund of \$4,500 for purchase of road oil. W. I. Prince is Mayor.

Grand Rapids, Minn.—County Commissioners have voted to advertise for bids for east and west road, known as Duluth-St. Vincent road. First publication of call for bids will be made shortly, and it is expected that meeting of Commissioners will be called for middle of September for opening of the bids. The 4½ per cent. road bonds, in amount of \$300,000, will also be advertised for sale September 12.

Meridian, Miss.—It is learned that two additional good roads will be given close attention by Board of Trade. One of these roads is proposed to run from Meridian to Canton and it is believed that this highway would be worth more to city than any of others, as it would give easy access to Neshoba and Leake counties. Another is good road from Livingston and other Alabama points.

Fremont, Neb.—Question of improving 22d St. under new highway law is being considered.

Cranford, N. J.—An effort may be made upon part of township authorities to get Board of Freeholders to take over Springfield Ave. and improve roadway. At present time there is talk of continuing Springfield Ave. from Union Ave. to North Ave., cutting roadway through West and Adams properties. It is estimated that cost of land to straighten road to North Ave. will aggregate in neighborhood of \$25,000.

Elizabeth, N. J.—Ordinances have been passed on first two readings for paving of William st., from Catherine to Reid sts., and for Princeton road.

Ordinances were also adopted for paving of Marshall st., from 7th to High sts., and Parker road, from Bayway to Hillside road.

Elizabeth, N. J.—Following paving bids were received: Bayway, Chilton to Magie sts., Joseph J. Houston Co., \$8,503; John C. O'Neil, \$7,577.80; Pingry pl., T. Foster Callahan, \$2,583.40; John C. O'Neil, \$2,590.90; Joseph J. Houston Co., \$2,961.50; Samuel Sampson, \$2,586.40; Edward L. Faughnan, \$2,639.10; James J. Potts, \$2,503.20. Parker road, Edward L. Faughnan, \$9,667.50; John C. O'Neil, \$9,478.45; Joseph J. Houston Co., \$10,965.60; T. Foster Callahan, \$10,633.10; Samuel Sampson, \$9,653.70; James J. Potts, \$9,301.95.

Irrington, N. J.—Ordinances have been adopted providing for grading of various streets. D. H. Greene is Mayor.

Landis, N. J.—The Landis Township Committee has passed on two readings Ordinance No. 32, establishing grade of Landis ave., its curbs and sidewalks from easterly line of borough to westerly side of Spring road.

Newark, N. J.—Board of Chosen Freeholders of county of Essex, N. J., invites proposals for purchase of \$150,000 plank road bonds, in denominations of \$1,000 each. Amos W. Harrison is Chairman.

Newark, N. J.—Authority for issuance of road bonds in amount of \$117,000 has been granted by Board of Freeholders. Proceeds of bonds which are to be issued, and are to run for terms of ten years, from Sept. 1 next, with interest at four and one-half per cent., will be used to defray county's share of improving Bloomfield Ave., in Belleville, Bloomfield and Glen Ridge; Central Ave., East Orange, and Myrtle Ave., Bloomfield. Total cost of this work, which is being carried on under the State road act of 1912, providing that the State shall pay fifty per cent., the county forty per cent., and the municipality ten per cent., will approximate over \$200,000. Resolutions adopted by City Council of East Orange, and approving specifications for improvement of Central Ave. and South Orange Ave., and agreeing to pay portion of cost of this work, have been received.

Newark, N. J.—Board of Chosen Freeholders will receive bids at 11 a. m., Sept. 11, for purchase of \$150,000 plank road bonds. Amos W. Harrison, Chairman.

Perth Amboy, N. J.—Resolution has been adopted for paving of Elm St. Wilbur La Roe is City Clerk.

Perth Amboy, N. J.—Resolution has been adopted for paving of First St., Lewis St., Paterson St., Brighton Ave. and Catalpa Ave. William La Roe is City Clerk.

Westfield, N. J.—Bids for macadamizing St. George place, Doring road and Scotch Plains ave. have been received from Snyder & Steele, C. H. Winans Co., Burke & Burhans, Charles Lenz, Jr., and Weldon Contracting Co., at meeting of Town Council. The bids were referred to the Road Committee for report.

West New York, N. J.—Petitions have been received for various street improvements.

Albany, N. Y.—John N. Carlisle, Commissioner of Highways, has advertised for bids for improvement of 12 state and county highways. Bids will be opened at 1 p. m., Sept. 26. The highways are as follows: Niagara, 1135, Griswold St.-County Line, 1.49; Oswego, 1138, Phoenix Village-Volney St., 0.65; Oswego, 1137, Oswego City-West First St., 1.43; Chemung, 1094, Elmira City-Pennsylvania Ave., 1.10; Chemung, 1096, Elmira City-Maple Ave., 0.51; Chemung, 5392, Elmira City-E. Water St., 0.76; Genesee, 5399,

Batavia Village, 1.97; Montgomery, 1140, Amsterdam City-W. Main St., 1.87; Wayne, 1142, Williamson Sta.-Williamson, 0.73; Fulton, 5394, Johnstown City, 1.54; Greene, 5409, Catskill Village-W. Bridge St., 0.23; Wyoming, 5400, Warsaw-Hainsville, 8.99. With one or two exceptions the construction is of brick.

Bridgewater, N. Y.—Village officers are urging construction of state road through Bridgewater.

Brooklyn, N. Y.—At meeting of Board of Estimate forty final authorizations were given for street improvements in Brooklyn, total estimated value of which is \$262,000, and three in Queens, estimated value \$22,300. There were preliminary authorizations for 22 public improvements in Brooklyn, the estimated total value of which is \$175,000, and five in Queens, value \$50,000.

Fulton, N. Y.—At meeting of the Board of Public Works, President John Fawcley announced that estimates of cost of improving Rochester St., from South First to South Second St. were \$4,159.62. Board has adopted resolution requesting Common Council to authorize Mayor to borrow money necessary for city's share of expense.

North Tonawanda, N. Y.—Common Council has decided to pave several streets at cost of \$65,000.

Oswego, N. Y.—Common Council has adopted resolution requesting State Highway Department to immediately take up matter of building approach to Mexico-Oswego state highway. Approach is to extend in East Tenth St., between Bridge and Oneida Sts., and in Oneida St., east of city limits.

Rochester, N. Y.—Genesee St. property owners have appeared before Public Works Committee to urge that city pay \$15,000 toward cost of Genesee St. pavement instead of \$7,613, now provided. The improvement is to cost \$109,000.

Rochester, N. Y.—Improvement of various streets has been authorized. Thos. Dransfield is City Clerk.

Syracuse, N. Y.—Common Council has ordered paving of Spencer St., between N. Clinton and Maltbie Sts. Cost, about \$30,700.

Syracuse, N. Y.—Asphalt has been designated as material for paving Linden St. and Jackson St., from South Ave. to Montgomery St. and for resurfacing Cedar St. pavement.

Syracuse, N. Y.—Board of Supervisors has authorized construction of Manlius-Delphi County highway at cost of \$70,000. New road will be little less than eight miles long, seven miles of which is in town of Pompey.

Raleigh, N. C.—City Council has decided to lay what is known as concrete macadam or asphalt macadam on Hillsboro St. from Capitol to city limit at Park Ave., and will probably import Board of County Commissioners to continue this class of construction to Raleigh Township line at least, this line being a little west of fair grounds. This paving of Hillsboro St. will cost \$20,000. North Blount St. is also to be paved with same material, a considerable part of South Blount having already been improved. It is also expected that Fayetteville St., from the Auditorium to the Centennial school will be surfaced with the same material.

Columbus, O.—Within short time Ohio Good Roads Federation will begin extensive campaigning for general improvement of what is known as Market Road No. 3. This extends from East Liverpool, Columbiana County, on east, to intersection of Van Wert, and Paulding County on the west. It goes through important cities of Van Wert, Kenton, Marion, Mansfield, Ashland, Wooster, Canton, Lisbond and East Liverpool.

Hamilton, O.—As result of opinion given by City Solicitor John F. Neilan to City Emergency Commission, that body will be able to proceed with improvements of streets and alleys and repair of public works damaged by flood, at once. Opinion allows commission to spend the \$100,000 authorized by council, although money is not actually in hand, bonds having failed to sell.

Lima, O.—Ordinance has been passed determining to proceed with improvement of Franklin Ave., from Elm St. to Lakewood Ave., by paving, etc. C. N. Shook is Mayor.

Gearhart, Ore.—The good roads meeting held here in the interest of highway to sea, under auspices of Columbia Highway Association, resulted in adoption of resolution asking County Courts interested to provide necessary funds for survey of road from Portland to sea, the work to be done by State Highway Engineer, and road to be completed by September 6, 1914.

Allentown, Pa.—Following ordinance has passed third reading: Providing for widening of Grant St. from Gordon to Liberty, paving Third St. from Union to long crossing of the Lehigh Valley Railroad Company.

Allentown, Pa.—Resolutions asking highway department to construct vitrified brick crossings on north side of East Walnut St. across Spruce and on the west side of East Carlisle St. across East Fairview has been passed.

Catasauqua, Pa.—North Catasauqua Councils have adopted resolution for macadamizing of Third St.

Franklin, Pa.—The re-paving of 13th St. bridge over French Creek is being discussed.

Meadville, Pa.—State Highway Department has started advertisement for bids for three miles of new road work in Western Crawford, between Springboro and Hickernell, in Spring Township.

Muncy, Pa.—By signing of agreement between Supervisors of Muncy Township and those of Muncy Creek Township, townships will construct during present fall 2½ miles of high-class limestone road, forming continuous highway from Haines Corner on road leading from Halls Station to Hughesville in Muncy Township to Muncy Creek bridge in Muncy Creek Township. At Muncy Creek bridge road will connect with Sprout Route No. 18. John A. Whitney, chairman; W. E. McConnell and Edward Gray are Supervisors of Muncy Township. The chairman of Board of Muncy Creek Township is George H. Anderson.

Philadelphia, Pa.—Washington lane, from Stenton Ave. to Cheltenham, will be resurfaced, grade will be reduced in places and lane will also be widened. This work it is expected will approximate \$30,000. Thirty streets throughout city will also be reduced in grade and twelve others will be repaved with asphalt. Vitrified brick and granite block paving will also be laid.

Port Worth, Tex.—City is arranging to resurface paving of Jennings Ave., from City Hall to Pennsylvania Ave.

Texarkana, Tex.—Committee appointed by Board of Trade to raise necessary funds to build good road between Texarkana and Ashdown reports splendid progress. Their plan is to raise money by popular subscription and they state that they will be able to secure full amount required within next two or three days. Ashdown is seventeen miles north of Texarkana.

Everett, Wash.—Four hundred thousand feet of planking is being laid by city to replace worn out surfacing on road stretching east from Snohomish River bridge.

Olympia, Wash.—The government forestry service has allotted \$14,220 for road construction in state of Washington during year 1914. The various items provided for in government plan are as follows: Stehekin valley wagon road, Chelan County, from head of Lake Chelan to Bridge Creek, \$1,000. Entiat Valley road, Chelan County, \$1,000. Chelan county is building a portion of this road with permanent highway funds; the forestry service will take up the work at the border of the national forest. Wind River Valley road, Skamania County, \$1,500. This road extends from Carson to the camp of the Wind Riler Lumber Co., which is removing timber from the national forest. Kettle Falls wagon road, Kettle Falls to Republic, Ferry County, \$1,000. This road is constructed along the route of state road No. 13. Loup Loup wagon road, Twisp to Conconully, Okanogan County, \$3,000. This road will establish connection between the Methow valley and the county seat, now lacking. Okanogan commercial organizations will raise additional money to be spent on this work. Cowlitz valley wagon road, Lewis County, \$1,000. To be expended above Lewis on state road No. 5. Footbridge across Cowlitz River at Lewis, \$1,000. The settlers in the vicinity are to raise an additional \$1,000 for this purpose. Galena to Index road, Snohomish County, \$2,000. Dodge Corals Grouse road-trail, Garfield County, along located state road No. 10, \$720. Blewitt pass road, Chelan and Kittitas counties, from Wenatchee through Peastlin and the Blewitt pass to a connection with Sunset highway above Ellensburg, \$2,000. Chelan County will expend \$2,500 and Kittitas County \$500 on this road.

Spokane, Wash.—Grading of portion of Glass Ave. is being discussed.

Spokane, Wash.—The Sons of Veterans, Spokane Camp No. 2, have placed before city commissioners resolution requesting construction of macadamized road from city to Fort George Wright.

Green Bay, Wis.—Other towns that have decided to expend good sums for road improvements in this vicinity are: Town of Buchanan, \$600; Appleton, \$1,800; town of Little Chute, \$600; Little Chute Road, \$1,500; Mackville Road, \$1,500.

Green Bay, Wis.—Improvement of Cedar Creek road is being planned.

CONTRACTS AWARDED.

Tucson, Ariz.—By Board of Supervisors of Pima County contract for construction of about 20 miles of highway between Tucson and Vail to D. O. Johnson, Phoenix, Ariz., at \$5,416. Other bidders were: Chadwick & Deyo, Tucson, \$6,051; Griffith & Pacheco, Tucson, \$5,531; Bingham & Farr, Tucson, \$5,596. B. L. Hitch is Clerk of Board.

Manhattan Beach, Cal.—By City for improving Highland ave., to S. C. Contr. Co., of Santa Monica, at \$84,475. The work includes 303,531 sq. ft. paving on concrete base, with oil and screening surface; 51,402 sq. ft. cement walk, catch-basins, etc. Knapp & Woodward, Engrs., Consolidated Realty Bldg., Los Angeles.

Pasadena, Cal.—To A. C. Hughes, contract for sidewalk on Hill Ave., at 8½ cts. per sq. ft.

Bridgeport, Conn.—To Hassam Construction Co., of New Haven, contract for paving driveway in front of No. 6 engine house, at 10 cts. a sq. yd. This contract was let subject to order of Board of Contract and Supply.

Bridgeport, Conn.—By Paving & Sewer Commission contracts amounting to approximate value of \$40,000 as follows: To Barber Asphalt Co., material for Court St. at \$1.82 a sq. yd., without guarantee. To Lawrence & Gaynor the work of paving Court St. at \$1.22 a sq. yd. To Lawrence & Gaynor, for the furnishing of material and paving of Noble and Crescent Aves. with granite blocks at a total cost of \$3.30 a sq. yd. To Lawrence & Gaynor, for the furnishing of all material and the paving of Sterling St. with wood blocks at a total cost of \$3.30 a sq. yd. Five bids were received for the paving of South Park Ave., from Atlantic St. to Seaside Park, but they were laid on the table until City Engineer A. H. Terry had decided upon the nature of the wearing surface to be used. The Park Ave. bids were as follows: The United States Wood Preserving Co., \$1.85 without guarantee, \$1.89 with guarantee, \$34.40 per 1,000 blocks, without guarantee, \$36 per 1,000 with guarantee. The Barber Asphalt Co., \$1.82, \$1.86, \$33.75, \$34.70. The Harris Paving Co., asphalt block \$1.72 and \$1.59 and \$1.77 and \$1.64 for blocks of different sizes. The Burns Co., \$3.20 per yd. furnishing either United States block or Barber asphalt block; for doing the work and furnishing labor and material exclusive of wearing surface, \$1.39, no guarantee. William H. Arthur, \$1.34 for doing all the work and furnishing all labor and material exclusive of wearing surface without guarantee; \$1.35 with guarantee.

Bridgeport, Conn.—Director of Public Works J. A. Courtade and City Clerk Stephen F. Boucher has signed contract with Warren Bros. of Boston, Mass., for laying of warrenite pavement on Connecticut Ave., from Stratford Ave. to Union Ave., to connect at last-named point with State's portion of warrenite pavement on Connecticut Ave., which will extend as far easterly as Stratford town line. Pavement is to cost city at rate of \$1.20 a sq. yd.

Sandpoint, Idaho.—Contracts for construction of proposed road from Trestle Creek to Pack River, and from Home Mountain to Clarks Fork, have been awarded by Road Commissioners for total of about \$8,500.

Peoria, Ill.—By City Council, for paving alley in Block 23, to John McAllister, at \$1,242.39, and for paving alleys in Block 11 to Miller & Biehl, at \$923.

Rock Island, Ill.—By Board of Local Improvements contracts for paving Fifth Ave., from 19th to 23d Sts., and 16th Ave., from 12th to 15th Sts., with brick and asphalt, to McCarthy Improvement Co., Davenport, Iowa, at \$2 per sq. yd. Wallace Treichler is City Engineer.

Clinton, Ia.—For applying top coat of bitument to two blocks on Second Ave. to Kaver Paving Co. at \$705.

Haverhill, Mass.—Contract for resurfacing Washington and Mill Sts. and Columbia Park will be awarded to Warren Bros., of Boston, at \$1.95 per yd.

Coloma, Mich.—For paving with brick 6 blocks by Village Council to Bean & Jones, of Benton Harbor, at \$12,000.

Eveleth, Minn.—To Lawrence & McCann of this city for paving six blocks

or approximately 2,000 ft. of Adams Ave., from Garfield St. to Fayal Road. The figures are approximately \$25,000. The price is \$2.50 per sq. yd. for creosoted 3-in. blocks, laid upon 6 ins. of concrete base.

Grand Rapids, Minn.—Contract for improvement of old right of way road, north from Deer River, has been let to Contractor Nobles, of Deer River, for \$3,200. A strip of road building in Wawina township was let to Jasper M. Pogue for \$1,643.

St. Paul, Minn.—To Barber Asphalt Co., to resurface Portland and Holly aves. with California asphalt, at \$19.50 per ton. Oscar Claussen is Engineer.

Sartell, Minn.—To M. E. Haglund, Minneapolis, for concrete sidewalks at 8 cents a square foot, and furnish gutter plates. Other bidders were W. J. Murphy, St. Cloud, at 8 cents per square foot; Henry Bjork, St. Cloud, at 77 cents a square yard; E. L. Newell, Minneapolis, at 94 cents a square yard. F. N. Sartell is Clerk.

Billings, Mont.—To McElroy Construction Co., for concrete paving work at 13 2-3 cts. per sq. ft., the total contract amounting to \$12,300. Wesch & Berry, city, were low bidders for concrete paving in the rear of the Babcock Bldg., and also in rear of the Grand and Northern hotels, their bid being \$1.87½ per sq. yd., or \$2,500 for the entire job.

Helena, Mont.—For paving Eighth Ave., to Miracle Tripp Constr. Co., of Helena, at \$10,817.

Auburn, Neb.—For paving in Dist. No. 1, to Monarch Eng. Co., of Falls City, Neb., at the following detailed bid: 8,442 lin. ft. curb, 31 cts.; 21,030 sq. yds. No. 1 vertical fibre block, \$2.05; 40,525 sq. ft. new sidewalk, 13 cts.; 15 manholes, \$45; 2,748 ft. ¾-in. (XX) lead pipe laid, 50 cts.; 1,900 ft. 10-in. vitr. pipe laid, 50 cts.; 26 catch-basins, \$20.

David City, Neb.—For paving with brick in Dist. No. 2, to I. E. Doty, of David City, at \$2.10 per sq. yd. Total cost is reported to be about \$7,632. L. L. Thompson is City Clerk.

Elizabeth, N. J.—Contract for paving Clark place has been awarded to John C. O'Neill, for \$10,830.80; for Magnolia ave., from Third to Fifth sts., to Samuel Sampson, for \$19,353.20; for Bayway, from S. Broad st. to Maple ave., to Edward L. Faughnan, for \$4,926.50; for Irvington road, to T. Foster Callahan, for \$2,881.86; for Oakwood place, to John C. O'Neill, for \$4,210.90; for Pennington st., to Edward L. Faughnan, for \$9,058.25; for Grove st., to T. Foster Callahan, for \$3,335.29.

Newark, N. J.—Tabulation of bids received by Board of Works on bitulithic paving contract shows that Leo W. McMahon is low bidder. Street is 19th Ave., which is to be paved from 16th St. to city line. His bid is \$2.14 a sq. yd., and estimates of his competitors were: Van Keuren & Son, \$2.21; William Jackson & Son, \$2.25; Newark Paving Co., \$2.21, and O'Gara & Maguire, \$2.25.

Lockport, N. Y.—To John Johnson Construction Co., of Buffalo, contract for construction of South Transit St. paving. This highway extends from north end of County Highway No. 507, at south corporation line, northerly on South Transit St., to pavement on West Ave., a length of 0.97 miles. Contract calls for pavement 30 to 40 ft. wide with brick wearing surface, sand cushion and concrete base.

Niagara Falls, N. Y.—La Salle Village Board, to Lewis H. Gipp of Buffalo, contract for paving Cayuga Creek road with reinforced concrete, at his bid of \$1.18 a sq. yd., a decrease of 27 cts. a sq. yd. from lowest bid received by board a fortnight ago.

Syracuse, N. Y.—The road to be built between Midland and Cortland Aves. in Onondaga Valley will be a 16-ft. pavement with a surface of bituminous macadam. The contract has been let by State Highway Commission to Greenfield Construction Co. and must be completed by October 31.

Syracuse, N. Y.—Contract for paving East Division St. from North State to Lodi St. has been awarded to F. J. Baker at \$14,350.50 and that for paving East Lafayette Ave. was let to G. B. Dickison for \$5,598.30. Edward Foley was given the contract for repairing West Jefferson St. bridge at \$1,106.

Utica, N. Y.—H. W. Roberts was lowest bidder for resurfacing of Howard Ave. and was only bidder for pavement in Canal St. and Holland Ave. J. W. Davitt put in bid for Howard Ave. work, and was only other bidder. Bids were as follows: Resurfacing Howard Ave.—H. W. Roberts & Co., asphalt, natural curb, \$4,595; asphaltic concrete, natural

SEWERAGE

curb, \$4.440; bitulithic, natural curb, \$5.401; J. W. Davitt, asphalt, natural curb, \$4.595; asphaltic concrete, natural curb, \$4.621.25. Paving Canal St.—H. W. Roberts & Co., asphalt, natural curb, \$4.288.70; asphalt, artificial curb, \$3.842.70; asphaltic concrete, natural curb, \$4.175.30; asphaltic concrete, artificial curb, \$3.729.30; bitulithic, natural curb, \$4.540.70; bitulithic, artificial curb, \$4.094.70. Paving Holland Ave.—H. W. Roberts & Co., asphalt, natural curb, \$4.221.50; asphalt, artificial curb, \$3.865.50; asphaltic concrete, natural curb, \$4.106.75; asphaltic concrete, artificial curb, \$3.750.75; bitulithic, natural curb, \$4.502; bitulithic artificial curb, \$4.146.

Lorain, O.—By Director of Public Service contract for paving East Erie Ave. with sheet asphalt to General Contracting Co., of Minnesota, at \$66,562. L. A. Dawes is Dir. of Pub. Serv.

Philadelphia, Pa.—By Director Cooke of the Department of Public Works contract for completion of Southern Blvd. to Hassam Paving Co., of Worcester, Mass. New contract is for \$185,000, and replaces one formerly held by Edwin H. Vare, and which was annulled by agreement.

Philadelphia, Pa.—Bids for \$250,000 of grading, paving, repaving and resurfacing of streets in various sections of city have been opened in Bureau of Highways of Department of Public Works. All contracts will be let on unit basis and accurate figures determining successful contractors in each case have not been compiled. One of most important contracts for repaving portions of Delaware ave. between Fairmount ave. and South st. with granite block will be awarded to J. Joseph McHugh at approximately bid of \$35,000. Square yard prices for the work from contractors were: Joseph McHugh, \$1.31; W. A. Ryan, \$1.49; P. J. Snyder & Co., \$1.80; Philadelphia Paving Co., \$1.94.

Pittsburgh, Pa.—By Board of Commissioners of Allegheny County contract for improvement of West Run, Homestead and Dequesne Road to Neean & Daly at \$5,082 for improving part of Glass Run extension road to R. H. Cunningham & Sons at \$13,032. R. J. Cunningham is County Controller.

Wilkes-Barre, Pa.—By County Commissioners, for construction of road in Courtland borough, to Davis & Parry, Dorrancetown, at \$7,485.90.

Wheeling, W. Va.—At meeting of Board of Control contract for paving of South street was awarded to L. G. Hallock & Son. Thoroughfare will be paved from 14th st. to B. & O. tracks with best paving block on concrete foundation, and entire work will be done at cost of the B. & O. R. R. The Hallock bid is \$2,966.96 and includes \$868 for excavation at 70 cts. per sq. yd.; concrete, \$1.160, at \$3.60 per cu. yd.; laying block, \$402.50, at 25 cts. per sq. yd.; filling joints, \$350, at 20 cts. per sq. yd., and concrete curb at 69 cents, or \$250.46.

Wheeling, W. Va.—By County Commissioners, contracts for road improvement, with stone, to lowest bidders. All of following successful completion of work in specified time: In Triadelphia District—Covenanter road, 100 cu. yds., J. S. Cox, at \$1.90; Elm Grove and Boggs Hill, 125 cu. yds., \$1.40, to John Johnson; Monument and Big Wheeling Creek, 50 cu. yds., John Holman, \$1.50; McCutcheon and Buchannon Mills, 50 cu. yds., Fred Schillinger, \$1.45; Sample, 25 cu. yds., Charles Ridgley, \$2.25; Stone church, 400 cu. yds., John Fisher, \$1.95; Union Hill, 150 cu. yds., G. W. Fisher, \$2; West Union and Roney's Point, second two miles, 150 cu. yds., John Johnson and Dodds Bros., \$2; West Union and Roney's Point, last three miles, 300 cu. yds., Fisher, 94 cts. In Richland District—Dean Shop to District Line, 100 cu. yds., W. S. North, \$1.15; Pogue's Run, 200 cu. yds., Campbell Savage, \$2.05; Waddle and Warden's Run, first district, 200 yds., Harry R. Carter, \$1.75; Stackyard road, Richland, O. Schaffer, \$1.75. In Liberty District—Battle Run to G. C. & P. road, 100 cu. yds., Charles Wallace, \$1.69; Greggsville, Clinton and Potomac, second division, District Line to Hervey's, 200 cu. yds., J. C. Foreman, \$1.75.

Newport, Wash.—By County Commissioners of Pend Oreille County contract for highway between Penrith and Newport to John McInnis of Spokane. The price was \$6,500.

Spokane, Wash.—The contract for the paving of Market St., from Sanson Ave. to Hazel Ave., was awarded to the Spokane Bitu-Mass Paving Co. for \$7,500.

Huntington Beach, Cal.—Construction of sewer system, consisting of 11,000 ft. of 16 and 20-in. pipe and a septic tank, total cost to be about \$30,000, is under consideration. Geo. W. Spencer is City Engr.

Oakland, Cal.—Plans and specifications for the construction of a sewer in Linden st., between 8th and 10th sts., have been adopted.

Pasadena, Cal.—Construction of storm water sewer in Pasadena Ave. has been authorized.

Pasadena, Cal.—City Clerk has been instructed to advertise for bids for extension of central storm drain from South Broadway to south city limits.

Washington, D. C.—The War Department has authorized Engineer Commissioner of District of Columbia to construct 15-in. outlet sewer across Conduit road under Aqueduct tunnel, at point near girls' reform school, and also to extend 10-in. service sewer in west side of Conduit road between Chain Bridge road and Weaver Place, and to extend 12-in. service sewer in east side of Conduit road between Chain Bridge road and Dana road.

Mount Sterling, Ill.—It has been decided to hold election Sept. 29 on proposition to vote \$16,000 in bonds for extension of sewer and water systems.

Walcott, Ia.—Bids are being received for sewerage system and disposal plant.

New Bedford, Mass.—Orders for sewers in DeWolf St., between Potter and Mt. Vernon Sts.; in Potter St., from Bullock St. westerly, and Richmond, Roswell and Bullock Sts., have been adopted and Board unanimously voted to appropriate \$1,000 for the DeWolf St. section, \$1,500 for the Potter St., and \$5,000 for the Richmond, Roswell and Bullock St. sewers.

Cadillac, Mich.—Plans are being prepared for construction of additional sewage disposal plant to cost about \$34,000.

Stillwater, Minn.—City Engineer will make estimate of cost of 6-in. sanitary sewer in S. 1st and E. Willard sts. Chas. A. Lammers is City Clerk.

Carthage, Mo.—Construction of sewer system is being discussed. F. B. Newton is City Engr.

Big Timber, Mont.—Installation of sewer system is being planned.

Bogota, N. J.—City Council is contemplating proposition to issue \$40,000 of bonds for construction of sanitary sewer system and disposal plant.

Camden, N. J.—Construction of various sewers has been authorized.

Elizabeth, N. J.—Ordinance has been passed for a sewer in Rebecca place.

Elizabeth, N. J.—Following sewer bids have been received: Newark ave. sewer, Christian Wade, \$6,796.75; T. Foster Callahan, \$5,617.65; Matthew Wade, \$5,964.25; J. Jacques, \$4,417.

Rome, N. J.—Plans for sewage disposal plant are being considered.

Rome, N. Y.—City Engineer Plunkett has presented estimate for sewers as follows: Locust St., 500 ft., cost \$325; Union St., 700 ft., \$534. Estimates have been approved and ordered sent to Common Council for its action.

Rochester, N. Y.—Construction of sewers in various streets has been authorized. Thomas Dransfield is City Clerk.

East Liverpool, O.—City has prepared plans for trunk sewer to drain main business centre at cost of \$6,200.

Salem, O.—Ordinance has been passed providing for improvement of parts of Morris, Maple and South Union Sts. by constructing sanitary sewers.

Lewisburg, Pa.—The Lewisburg Borough Council has ratified specifications for sewer and paving jobs drawn by Borough Engineer Walter Frick. Bids will be advertised for in short time for both jobs.

Columbia, S. C.—City is preparing to extend sewer system. About \$400,000 will be required for new equipment and water plant, and for about 25 miles of water and sewer mains. Bonds will be issued. W. F. Stieglitz, Councilman, Superintendent; F. C. Wyse, Engineer Superintendent.

Dallas, Tex.—There will soon be ready for the market the \$300,000 in bonds for construction of sewage disposal plant for city of Dallas. All of the preliminary surveys have been made for work and data forwarded to J. H. Fuertes, expert hydraulic engineer.

Everett, Wash.—Plans have been completed by City Engineer for trunk sewer system for southern part of city.

Port Angeles, Wash.—City Council has adopted plans and specifications for construction of \$12,000 sewer system.

Milwaukee, Wis.—Council Sewerage Commission has recommended construction of relief sewer in Locust St., from Humboldt Ave. to upper Milwaukee River at \$25,000, and one at Muskego Ave. and Arrow St., at \$12,000.

Mondovi, Wis.—Ordinance has been adopted for construction of a sewer 726 ft. long on Franklin st. P. H. Urness is City Clerk.

Oconomowoc, Wis.—Bids will be received for 940 lin. ft. of 12-in. sewer, 1,048 lin. ft. of 8-in. sewer, 7 manholes and 2 catch-basins; check for 5 per cent.

Sheboygan Falls, Wis.—Plans have been completed by Donahue & Sinz, Engineers, of Sheboygan, for sanitary sewers and septic tank, and special election will be held shortly to vote on bond issue.

Sherbrooke, Que., Can.—Mr. Hilder Daw, A. M. C. S. C. E., of Kings Hall Bldg., St. Catherine St., Montreal, has been instructed by Mayor and Aldermen to design a sewerage system for city. Mr. Daw would be pleased to receive price lists, catalogues and drawings from manufacturers of stoneware, ironware gullies, traps, syphons, valves, etc. All communications to be addressed care of Engineer's Dept., Sherbrooke.

CONTRACTS AWARDED.

Hartford, Conn.—At meeting of Board of Contract and Supply six bids were received for laying sewers in Homestead ave., Baltimore and Kent sts. Award was made to F. B. & W. H. O'Neil whose bid was \$4,042.25, the work to be done in 35 days. Other bids were Berardine & Tomasetti, \$4,228.50; Louis Rogers, \$4,722.20; Berardini Silvestri, \$4,568.65; Don O'Connor, \$4,409.65; A. D. Marce & G. D. Berardino Co., \$4,114.25.

Creston, Ia.—Lowest bidder for construction of sewer was J. J. Dunnegan of Shenandoah.

Walcott, Ia.—Contract for construction of sanitary sewers in town to (a) J. J. Dunnegan, Shenandoah, Ia. Following were bidders: (b) Blackhawk Const. Co., Waterloo; (c) Independent Const. Co., Davenport; (d) M. Tschirgi & Son, Cedar Rapids; (e) J. H. Selden, Muscatine; (f) D. E. Keeler Co., Davenport; (g) Hydraulic Concrete Const. Co., Davenport; 1,394 ft. 12-in. vit. sewer pipe at (a) 85 cts., (b) \$1, (c) \$1.10, (d) \$1.10, (e) \$1.15, (f) \$1.10, (g) \$1.10; 2,445 ft. 10-in. vit. sewer pipe at (a) 60 cts., (b) 75 cts., (c) \$1, (d) \$1, (e) \$1.02, (f) \$1, (g) \$1.05; 8,165 ft. 8-in. vit. sewer pipe at (a) 65 cts., (b) 65 cts., (c) 80 cts., (d) 79 cts., (e) 90 cts., (f) \$1.15, (g) \$1.15; 96 ft. 12-in. cast-iron pipe at (a) \$1.25, (b) \$1.50, (c) \$1.50, (d) \$3, (e) \$2, (f) \$3, (g) \$2.08; 24 manholes at (a) \$35, (b) \$40, (c) \$38, (d) \$40, (e) \$45, (f) \$45, (g) \$40; 2 drop manholes at (a) \$45, (b) \$50, (c) \$48, (d) \$50, (e) \$60, (f) \$75, (g) \$75; 9 flush tanks at (a) \$75, (b) 60, (c) \$55, (d) \$60, (e) \$80, (f) \$30, (g) \$88.85. Totals, (a) \$9,684.15, (b) \$10,279, (c) \$12,157.40, (d) \$12,316.75, (e) \$13,557.50, (f) \$15,156.15, (g) \$15,600.40. Contract for outlet sewers was awarded to (d) M. Tschirgi & Son. Bids as follows: 1,200 ft. 15-in. vit. sewer pipe at (a) 60 cts., (b) 50 cts., (c) 65 cts., (d) 59 cts., (e) 85 cts., (f) \$1.10, (g) \$1.15. Two concrete or brick manholes at (a) \$45, (b) \$35, (c) \$35, (d) \$27.50, (e) \$45, (f) \$50, (g) \$40; one cement concrete bulkhead at (a) \$75, (b) \$100, (c) \$100, (d) \$75, (e) \$125, (f) \$250, (g) \$225; on septic tank, concrete, at (a) \$3,200, (b) \$3,000, (c) \$2,700, (d) \$2,250, (e) \$2,600, (f) \$5,170, (g) \$3,300. Totals of bids (a) \$4,085, (b) \$3,770, (c) \$3,650, (d) \$3,088, (e) \$3,338, (f) \$5,170, (g) \$4,985. Iowa Engineering Co., Engineers, Clinton, Ia.

New Orleans, La.—For sewer work as follows:

Contract 53D, underground conduit for sewerage Station A to the Mississippi River, to C. Hyland & Co., 1532 Polymiria st., at \$4,557.

Contract 55D, extension to drainage pumping station No. 1, including all foundations, suction and discharge basins, to Hampton Reynolds, 4326 Chestnut st., at \$86,400. Other bidders: R. McCarthy, Jr., \$94,900; Askald & Alexander, \$113,960 and Jefferson Constr. Co., \$139,868.

Contract 56D, sluice gates for drainage pumping station No. 1, Roe Stephens Mfg. Co., Detroit, Mich., at \$2,020.

Contract 57D, traveling crane for drainage pumping station No. 1, to Pawling & Harnischfeger Co., Milwaukee, Wis., at \$2,500.

Worcester, Mass.—By Trustees of Worcester State Asylum contract for construction of new sewage filter beds at Grafton Colony, to John Rydberg, Worcester, at \$24,459.

Newark, N. J.—By Passaic Valley Sewer Commission contracts for two portions of Section 6 of Passaic Valley trunk sewer as follows: Southernly portion to the Culp Co., Brooklyn, N. Y., at \$164,845, and the central portion to Frazer & Burchenal, New York, N. Y., at \$135,650.

Brooklyn, N. Y.—Lowest of nine bidders for big Corona sewer main in 51st St., from bulkhead line of Flushing Bay to Lurting St., is Luke A. Burke & Son, \$1,167,852.30. Highest offer was that of Mason & Ranger Co., \$1,806,845.10. Cost of entire undertaking will run to several millions, total of two contracts already given out exceeding \$2,000,000. Contract awarded calls for construction of 370 lin. ft. of 13-ft. 9-in. by 8-ft. twin reinforced concrete main; 443 lin. ft. of 12-ft. 6-in. circular main of reinforced concrete, part on piles; 2,734 ft. of 12-ft. 6-in. cast-iron main, concrete lined; 2,016 ft. of 11-ft. and 4,767 ft. of 8-ft. cast-iron, concrete lined; 517 lin. ft. of 10-ft. 6-in. by 8-ft. 6-in. twin reinforced concrete, including cost of underpinning tracks of Long Island Railroad; also about 8,500 ft. of smaller mains. The bid includes also four big shafts at Ditmas, Hayes, Polk and Kingsland Aves., and a junction chamber at Lurting St., all on 51st St.; also 725,000 ft. of timber and 75,000 ft. of piles.

Utica, N. Y.—Work of laying sewers in Highland Ave. and Market St. has been awarded to A. W. Fitch on bid of \$248.25 for Highland Ave. and \$195.25 for Market St. For same work only other bidder, F. N. Johnston, bid \$299.65 and \$269.75.

St. Helens, Ore.—For construction of main trunk sewer and laterals in Districts 3, 6 and 7 to James Kennedy Construction Co., Portland, at \$35,818.

Chester, Pa.—Contract for 18-in. sewer on Third St., from Clayton St. to city line, has been awarded to E. H. Oliver at his bid of \$1.48 per foot for the pipe; 95 cts. for "Y's"; \$35 for manholes and \$4.50 for rock.

Central Falls, R. I.—For construction of sewage disposal plant in western section of city to Mackinnon Pile Driving Building Co., Providence, R. I., at \$22,032.

Nashville, Tenn.—By Board of Public Works, contract for construction of Belmont Heights trunk sewer to Mimms-Sneed Company, at \$13,136.02. Sewer will extend from No. 48 brick sewer in Belcourt St., thence south through private property, Hillsboro road, across Acklen, 20th, 19th, 18th and Portland Aves. to Belmont boulevard.

Granite Falls, Wash.—For constructing sewerage and drainage system to Atlas Const. Co., of Everett, at \$35,210. Trasca & Coluccio, of Seattle, bid \$35,318. H. E. Jewell is Town Clk.

WATER SUPPLY

Burlingame, Cal.—Negotiations have been commenced for purchase of Peninsula Water Co. and Easton distributing system by city of Burlingame for its new municipal water system. Trustees have accepted report of arbitration committee, which placed valuation of \$48,375 on Peninsula Water Co., and Board ordered Water Committee to negotiate for purchase of company at that figure.

Glendora, Cal.—Bonds in amount of \$25,000 have been voted for construction of water system.

San Diego, Cal.—City Council is considering proposed \$955,000 water bond issue.

Grand Ridge, Ill.—Citizens have started movement for city water system.

Havana, Ill.—City fathers have ordered laying of five blocks of new water mains. First work to be done will be four blocks on Harpham Ave., from Main St. to Laurel Ave. Other block will be on A St., in Tinkhamtown. Four-inch mains will be laid and the work will be commenced as soon as pipes can be secured.

Mount Sterling, Ill.—At meeting of City Council it was decided to submit to voters proposition to issue \$16,000 in bonds for extension of present water and sewer systems. Election will be held September 29.

Belmont, Ia.—Citizens have voted in favor of issuing \$14,000 water works extension bonds.

Mapleton, Ia.—Resolution is being considered authorizing construction of open well and appropriation of necessary funds for same. G. G. Harris is Clerk.

Perry, Ia.—Special election will be held for voting on water bonds in the sum not to exceed \$30,000.

Oxford, Kan.—Citizens have voted in favor of issuing \$20,000 bonds to construct water works. Bids for construction will shortly be asked. Rollins & Westover, of Kansas City, Mo., are Engineers; J. P. Lester, Jr., is City Clk.

Anchorage, Ky.—Construction of water works costing \$25,000 is under consideration. Address Town Clerk.

Chisholm, Minn.—Village Engineer has been instructed to issue call for bids for Sept. 16 for furnishing necessary concrete material for clear well which is to be built in connection with new improvements at pumping station. Water and light board has authorized the work. A 6-inch water main is to be laid in the park addition for distance of approximately 300 feet.

Big Timber, Mont.—Big Timber is planning on installing a complete municipal water plant and a sewer system.

Dorchester, Neb.—Dorchester has voted in favor of \$15,000 for water works and \$5,000 for electric lights.

Niobrara, Neb.—Proposition for voting on issuing \$14,000 water works bonds has been carried.

Garfield, N. J.—New site will shortly be selected for pump house.

Washington, N. J.—Washington Water Co. has a civil engineer at work and upon his report will depend whether company will build another reservoir on Scott's Mountain at cost of approximately \$10,000.

Waterloo, N. Y.—Persons residing in northern outskirts of village have presented petitions to Village Trustees condemning present water works system and service in that section. Petitioners ask Board to require more adequate fire protection by placing of hydrants.

Bexley, O.—Bid will be received at the office of the clerk of the village of Bexley, State of Ohio, until 12 o'clock noon of the 16th day of September, 1913, for the purchase of bonds of the said village in the aggregate sum of \$17,000, issued for purpose of completing construction of water supply and sewage disposal system for village of Bexley. G. E. Fry is Clerk.

Toledo, O.—Breed, Elliott & Harrison, of Cincinnati, have purchased the \$12,500 5 per cent. bonds sold by County Commissioners. The money will be used by Commissioners in providing water supply and open air bathing pool for Lucas County Children's Home.

Sapulpa, Okla.—City is planning extensions to water works.

Sayre, Okla.—Ordinance has been passed authorizing \$13,000 bond issue for water works.

Columbia, S. C.—City is preparing to extend water system to meet growing demands of city. Estimated cost, \$400,000 for new equipment at water plant, and for water and sewer mains, new pump, 10,000,000 gallons capacity, 8 filter beds, 8,000,000 gallons capacity and concrete clear water basin is the need of the plant. About 25 miles of water and sewer mains will be required. Bonds will be issued. W. F. Stieglitz, Councilman Supt., F. C. Wyre, Engineer-Supt.

Lewisburg, Tenn.—Bids have been asked for \$20,000 water works bonds. C. C. Houston is Mayor.

Belton, Tex.—Water works bonds in sum of \$20,000 have been approved.

Runge, Tex.—Citizens have voted in favor of issuing \$20,000 bonds for water works and electric light plant. J. F. Murray is City Clerk.

Endicott, Wash.—Bids for construction of water system here and for local improvement bond issue have been rejected by City Council, the construction bids being considered too high and the one bid submitted for bonds being unaccompanied by certified check.

Hillyard, Wash.—City Council of Hillyard has passed ordinance to install four and six-inch metal lateral water mains throughout city, at estimated cost of \$91,740.

Cokeville, Wyo.—Election will be held Sept. 9 for voting on bond issue to cover cost of water works system. E. B. Perry is Clerk; Richard R. Lyman is Engineer.

CONTRACTS AWARDED.

Priest River, Ida.—For installation of water works system bids were as follows: C. A. Cochran, Spokane, \$11,978; C. E. Bryant, Moscow, \$12,389; Mars Construction Co., Portland, \$12,714; Western Coast Co., Spokane, \$12,960. Contract was awarded to C. A. Cochran.

Galesburg, Ill.—Bids for brick work for two new boilers at water works have been received. Bid of P. O. Munson was for \$1,560, and that of M. E. Sweeney for \$1,467. On motion of Alderman Johnson bid was let to M. E. Sweeney.

Naperville, Ill.—For Downie Double Stroke Pump, capacity 350 gals. per minute, 300 ft. head, direct connected to a motor, to Keystone Driller Co., of Chicago, Ill.

Fergus Falls, Minn.—For constructing brick pump house, to W. D. Lovell, of Minneapolis, at \$3,600. S. A. Levorsen is City Clerk.

Niagara Falls, N. Y.—To E. J. Murray, formerly Chief of Construction for Niagara Falls Power Co., contract to lay water main along right of way of New York Central Railroad from Main St., at south end, to Sugar St., for Western New York Water Co.

Akron, O.—Lowest bidder for construction of pumping station and filtration plant was Carmichael Construction Co., of Akron, at \$75,692 and \$249,261.80, respectively.

Springfield, O.—Bids upon construction of the belt line for water works system have been opened at noon at office of City Clerk E. D. Seggerson. According to preliminary estimate, bids of Fidler & Brock and Kavanaugh were lowest.

Pendleton, Ore.—For construction of gravity water system, to Arthur S. Bent Construction Co., Los Angeles, Cal., at \$135,000.

Selinsgrove, Pa.—For excavation and concrete construction for reservoir of Mifflinburg Water Co., to Francis H. Gemberling, of Selinsgrove.

Bristow, S. D.—For constructing water works system to Katz Constr. Co., of Omaha, Neb.

Madison, S. D.—For 8,000 ft. 4-in. water pipe to R. B. Airing, of Pierre, S. D., at 69.5 cts. per ft. Other bidders: J. H. Roberts, Brookings, 81 cts.; R. H. Mayfield, Madison, 71 cts.; G. S. Pellmon, Pipestone, 84 cts.; H. Coolcat, Marshall, 73 cts.; Hutchinson Hardware Co., La Moore, 79 cts.; W. D. Loral, Minneapolis, 76 cts.

Barboursville, W. Va.—For construction of water system, to J. L. Stewart & Sons, Milton, W. Va., at \$12,000. Other bidders were: Gillespie & Werniger, Huntington, W. Va., \$14,500; John Stander, Huntington, W. Va., \$16,000; and W. W. Munn Hardware Co., Barboursville, \$14,200.

Waterford, Wis.—To construct water works, to Birdsall Griffith Constr. Co., and for the pipe and hydrants to J. B. Clow & Sons. A. G. Scheele is Village Clerk.

Victoria, B. C.—Water Commissioner has recommended to City Council awarding of following contracts: Concrete flowline, Graff Construction Co., Seattle, \$308,160; riveted steel pipe, McDonald, Godson Co., Victoria, \$444,998; telephone line to F. H. Folsom, Victoria, \$8,625; steel trestles to the Graff Construction Co., Seattle, \$40,000.

LIGHTING AND POWER

Pasadena, Cal.—Specifications have been adopted for construction and installation of ornamental bronze lighting posts, etc.

Sacramento, Cal.—Extension of electrolite lighting district from 12th to 16th St. on J and K Sts. has been authorized by City Commissioners. Flaming arc lamps will probably be erected. Estimated cost \$12,806.

Windsor Locks, Conn.—Installation of ornamental street lighting system on Main St. is being considered. Cluster lamps on ornamental standards will probably be used.

Bunker Hill, Ill.—Electric light committee is considering purchase of meters for municipal electric light plant. Harry McPherson is chairman of committee.

Peoria, Ill.—Movement is on foot among business men on South Adams St. for erection of handsome electric light arch at corner of South Adams and Cedar Sts. Petitions are now being circulated for ornamental lights along course of new paving. On heels of petitions for ornamental lights comes movement for big illuminated archway. Plans for such structure are in hands of Sherman Buckley, Commissioner of Public Works. It is estimated that work would not cost more than \$500.

Malden, Mass.—Plans are being considered by Street and Water Commission for installation of ornamental street lighting system on business streets of Central Square.

Blissfield, Mich.—Ray Ellis, superintendent of municipal electric light plant, will prepare estimates of cost of enlarging plant and installation of additional machinery to provide for a 24-hour service.

ample waterway in case of flood and will withstand large volume of water.

Kansas City, Kan.—By City Commissioners, contract for construction of reinforced concrete bridge over Jersey Creek at Seventh St., to B. C. S. Construction Co., at \$16,832. W. M. Barkley is City Engr.

Leominster, Mass.—To Ferdinand Figenbaum, contract for construction of concrete bridge over Whitney St., at \$5,720.

Northampton, Mass.—For removing iron bridge and constructing concrete girder bridge, to A. C. Brownie, of Ludlow, Mass. Durkee, White & Towne, of Springfield, are Engineers.

Onset, Mass.—Bids for erection of new concrete bridge over Swifts River at Onset have been opened at the office of State Board of Highway Commissioners in Boston. Town has completed arrangement whereby State Highway Board pays \$10,000, county of Plymouth \$10,000, the New Bedford & Onset Street Railway Co. \$5,000 and the town of Wareham \$15,000, a total of \$40,000. The bids opened were three in number. The largest was over \$61,000, second was slightly over \$50,000, and lowest bid was \$36,000. W. H. Ellis, of Boston, was this bidder.

Jackson, Miss.—For constructing two 90-ft. reinforced concrete bridges, one over Town Creek on N. Gallatin st., and one over Town Creek on N. Farish st., to Lutten Bridge Co., of Birmingham, Ala., at \$5,971, city engineer's design. Masena Culley is City Engineer.

Manchester, N. H.—By Board of Public Works, contract to United Const. Co., of Albany, N. Y., for construction of Kelley St. bridge, at \$98,300.

Westfield, N. J.—Contract for bridge work over West Brook, in Linden, has been awarded to T. Foster Callahan for \$455. Other bidders were A. W. Styles, \$494; Christian Fritz, \$504; Villa Bros., \$525; Charles H. French, \$465. Two culverts under Elizabeth ave, Linden, went to John R. Bachman for \$480.50. Other bidders were the Logan Construction Co., \$748; T. Foster Callahan, \$558; Alex. Kerr, \$697; Villa Brothers, \$700.

New Castle, Pa.—Following bids have been received by County Commissioners at New Castle for constructing bridge over Mahoning River: Farris Bridge Co., Pittsburgh \$10,700; Fort Pitt Bridge Co., Pittsburgh, \$17,990; Kimbrough & Elder, New Castle, \$17,968; York Bridge Co., York, \$16,000; Woods Golder Constr. Co., New Castle, \$12,182; Penn Bridge Co., Beaver Falls, \$11,782. Contract was awarded to Farris Bridge Co. J. R. Lamorn is Commissioner's Clerk.

Akron, O.—By Board of Commissioners of Summit County, contract for construction of superstructure of bridge at Cuyahoga St., Akron, and for repairing bridge over Little Cuyahoga River at North Howard St., to Payne-Gillen Engineering Co., and E. J. Landor, Akron, at about \$40,000. W. H. Stowe is County Engr.

Richland, Pa.—By Bucks County Commissioners, contract for repairing bridge over north branch of Tohickon Creek, in Richland township, to David Sutton, of Riegelsville, on a bid of \$1,128.

Ashland, Wis.—For constructing bridge over Fish Creek, to Hennepin Bridge Co., of Minneapolis, Minn., at \$8,960.

MISCELLANEOUS

Los Angeles, Cal.—Harbor bonds in sum of \$121,300 have been sold.

Manhattan Beach, Cal.—Legal proceedings have been started by local council to construct 15-ft. cement walk and 6-ft. retaining wall along ocean front. Total cost of improvement, \$120,000.

Oakland, Cal.—Twenty-four bids have been submitted to City Council for purchase of \$990,000 worth of municipal bonds bearing 5½ per cent interest. N. W. Halsey & Co., of New York and San Francisco, bond brokers, were highest bidders, with offer of \$1,015,510.

San Diego, Cal.—By vote of nearly three to one, citizens of National City have voted in favor of municipal bond issue of \$10,000 for park improvements.

San Diego, Cal.—The \$850,000 park improvement fund No. 2 bonds have been sold to Harris Trust & Banking Co., of Chicago.

San Francisco, Cal.—With vote of approximately four to one, issue of \$3,500,000 municipal street railway bonds has been authorized.

San Jose, Cal.—City Engineer Irving L. Ryder has reported favorably upon plans for Fred Smith incinerator and

first reading was given on resolution to make Mr. Smith consulting engineer in this work. The agreement in the resolution calls for \$500 for consulting engineer.

Hartford, Conn.—City Engineer Roscoe N. Clark has submitted to Board of Street Commissioners estimates and specifications of proposed shelter for Isle of Safety on State St. With his report blue prints were distributed for reference. Shelter would be 60 ft. in length, with average width of 15 ft., and would cover approximately two-thirds of raised platform and in emergency provide shelter for 200 people.

Fort Lauderdale, Fla.—Preliminary reports of engineers engaged in survey of New River inlet for purpose of constructing harbor at this point for seagoing vessels, indicate that proposed improvement can be accomplished at outlay of considerably less than \$200,000 originally estimated.

Pensacola, Fla.—Purchase of auto patrol truck for police department is being considered.

Athens, Ga.—City is considering installation of a crematory. J. W. Barnett is City Engr.

Covington, Ind.—County Council has voted appropriation of \$12,000 and authorized board of commissioners to buy sixteen voting machines.

Mishawaka, Ind.—City will purchase combination auto patrol ambulance.

Richmond, Ind.—Wayne County Council has appropriated \$21,000 for purchase of voting machines, and commissioners will advertise for bids and let contract for machines in a few months.

Pratt, Kan.—Plans are being made for establishment of new playground.

Cumberland, Md.—Plans have been completed for new police station.

Duluth, Minn.—An ordinance has been adopted to appropriate from public utility fund sum of \$1,100 for purchase of two-passenger runabout automobile for use of water and light department. W. T. Prince is Mayor.

Hibbing, Minn.—At regular meeting of Village Council Dr. Morsman, Village Health Officer, recommended purchase of additional garbage wagon and that regular collections of garbage be made in Alice and Brooklyn. Recorder was instructed to advertise for bids for garbage wagon and service will be instituted at earliest moment possible.

Caruthersville, Mo.—It is proposed to spend \$500,000 in building St. Francis levee beyond danger line of any overflow.

Omaha, Neb.—City of Omaha needs at least three new automobiles for police work right away, according to John J. Ryder, Superintendent of Police Department. These machines should cost about \$4,000 apiece.

Paterson, N. J.—Plans have been completed and bids will shortly be asked for new market at Grand St.

Perth Amboy, N. J.—Bids will shortly be advertised for erection of city scale house.

Ventnor, N. J.—Ventnor Council has introduced and passed on first reading ordinance providing for issuance of \$25,000 worth of bonds to be used for building jetties and making other improvements along beach front.

Buffalo, N. Y.—Plans are being prepared for erection of new city hall.

Schenectady, N. Y.—Blodgett & Co., of Boston, were highest bidders for \$300,000 worth of park bonds which were disposed of. Their bid was \$305,411.

Chester, Pa.—At joint session of City Councils contract for bonds for loan of \$118,000 was awarded to local banks.

Philadelphia, Pa.—Irwin S. Osborn, of New York, has prepared plans for municipal garbage disposal plant. Council will be asked to authorize a permanent loan of \$1,000,000 for construction of the plant.

Corpus Christi, Tex.—Citizens have voted to issue \$20,000 in bonds for establishing garbage disposal plant.

Colfax, Wash.—The Whitman County Commissioners have rejected 14 bids for county automobile.

Spokane, Wash.—City Commissioners have approved of plans submitted by City Engineer Morton Macartney for retaining wall at east end of new Hangman Creek bridge, to cost approximately \$2,040. Mr. Macartney submitted two plans, of which commissioners decided upon one involving lesser cost.

CONTRACTS AWARDED.

Long Beach, Cal.—To Alphone King Co. by Board Public Works to construct incinerator plant to cost \$12,000.

San Francisco, Cal.—Bids for supplying stone for construction of new City Hall have been opened by Board of Public Works. The McGilvary-Raymond Granite Co., which was only firm submitting bids on each of 16 enumerated propositions in specifications, was lowest bidder, and it is now only matter of few days until contract will be signed. Estimated cost of stone for building was \$1,200,000, but McGilvary Co.'s bid amounted to \$991,313.

Naugatuck, Conn.—Warden Cross has been empowered by Boro Board to procure Ford runabout for use of Fire Chief Wilson Clark at estimated cost of \$611.75.

Holyoke, Mass.—Bids have been opened by Board of Public Works for general construction, heating and ventilating and plumbing for new central fire station which will be built on Maple St. For general construction work M. J. Walsh & Son were lowest bidder with bid of \$94,500. In heating and ventilating, Michael Taft was low bidder, with \$2,930. Sullivan & Carmody were lowest bidders for plumbing work with bid of \$5,225. Bids were as follows: On the general construction, P. M. Lynch, \$112,000; M. J. Walsh & Son, \$94,500; John J. O'Neil, \$105,480; Louis Carreau & Son, \$98,500; Casper Ranger Construction Co., \$99,149; J. H. Fowles & Son, \$107,000; P. J. Kennedy, Jr., \$95,568; D. O'Connell & Sons, \$97,915. Heating and ventilating bids were: Holyoke Valve & Hydrant Co., \$3,442; P. J. Donnelly, \$3,100; P. J. Moriarty, \$2,972; M. J. Duggan, \$3,236; Michael Taft, \$2,930; R. J. Moriarty, \$3,200. The plumbing bids were: Gavin & Moriarty, \$5,990; D. J. Bowler, \$6,350; E. H. Friedrich, \$6,320; Sullivan & Carmody, \$5,225.

Oswego, N. Y.—By Department of Fire and Police to Keating Garage & Engine Co., contract for furnishing Buick automobile patrol for Police Department. Cost of apparatus will be \$1,650.

Rochester, N. Y.—Board of Contract and Supply has awarded contracts for improvement work and rejected one bid because it exceeded estimate. Contracts awarded follows: Sewers, walks and grading in Hiram St., John Petrossi Co., \$2,299; sewers, walks and grading in Dayton St., John Petrossi Co., \$2,055; brick pavement in Langham St., Henry Schoenfeldt \$4,843.50; asphalt resurfacing on Fulton Ave., Whitmore, Rauber & Vicinus, \$18,232.50; brick pavement in Weddall Way, Nicola Desiderio, \$14,510.50; sewers, walks and grading in Suffolk St., John Petrossi Co., \$3,602.50; sewer in Pulaski St., John Petrossi Co., \$659.75; walks and grading in Post St., \$1,707.95.

Schenectady, N. Y.—To Crane-Veeder Co., contract for 2,000 barrels of cement at \$1.24 per barrel.

Schenectady, N. Y.—Sealed proposals for several contracts on new county jail have been received by Board of Supervisors, but only one contract was awarded, that for erecting iron fence and gates. John A. Franken got this contract, his bid being \$897. Reinold Staley was only other bidder, his figure being \$1,043.50.

Utica, N. Y.—By Board of Contract & Supply to N. D. Peters contract for extending city electric subway in Charlotte from Bleeker St. to Elizabeth and in Elizabeth St. from Charlotte to John St. Bid was \$5,269. A bid from F. M. Johnston for \$5,681.41 was also received.

Statesville, N. C.—To L. O. White of Statesville, contract for dredging of that portion of Third Creek in Upper Third Creek drainage district, contract price being \$12,500. Portion of the creek to be drained is 8 miles in length, beginning in Alexander county and ending at Watts mill, four miles from Statesville.

Angleton, Tex.—For erecting county jail, to M. C. Dougherty, of Angleton, at \$10,600 and for cell work, to Paul Bldg. Co., St. Louis, Mo., at \$4,581.

Eastville, Va.—By Northampton County Board of Supervisors for erection of new county jail, to Salem Co., at \$15,040.

Sedro Woolley, Wash.—For erecting four buildings at Northern Hospital for Insane, to P. E. McHugh, of Tacoma, at \$169,000.

Saint Catharines, Ont.—Contract for section No. 3 of new Welland canal has been awarded to M. J. O'Brien and Hugh Dougherty, two of biggest Canadian contracting firms, for approximately \$10,000,000.